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<110>  Patrick J. Dillon et al.

<120>  Nucleotide Sequences of Escherichia coli Pathogenicity Islands

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<151>  1997-11-21

<150>  60/061,953
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<150>  60/031,626
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cgcatacagt gcacaacaga acagaaataa cagcgctgta atggatgtga gggtatttct    2160

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gtatccgcat gcaattgtgg ttattgcaga cacaacaaaa aagaataaaa acaataaaat    2280

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tggttgtgaa taaaacaaca gcagtactgt atcttattgc actgtcgctg agtggtttca    840

tccatacttt cctgcgggct gaagagcggg gtatatacga tgacgtcttt actgcagatg    900

agttgcgtca ttaccggata aatgaacggg ggggacgcac cggaagcctg accgtcagtg    960

gtgcactgct gtcctcaccc tgcacgctgg tgagtaatga ggtgccgtta arcctccggc   1020

cggaaaatca ctctgcggca gccggagcac ctctgatgct gaggctggca ggatgtgggg   1080

acggtggtgc acttcagccc ggaaaacggg gcgttgcgat gacagtctcc ggctcactgg   1140
```

```
taaccggtcc cggaagcgga agtgctttac ttcctgaccg taasctatcc ggctgtgaca      1200

tcttgttata cac                                                        1213
```

<210> 8
<211> 451
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (437)..(437)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (449)..(449)
<223> n equals a, t, g, or c

<400> 8
```
acgctctagt attctctgtc gttctgcctg ggccactgca gatagaatag tgacaaccat        60

tttacccatc tcccatcgg tactgattcc gtcatcaata aaccgaatgg atacaccttg       120

ggcgtcaaac tcttttatta actggatcat gtcagcagta tcgcgcccaa ggggttcaag       180

tttcttcacc aagatgacgt caccttcctc caccttcatc ctcagcaagt ccagcccttt       240

ccgatcgctt gaactgcccg atgccttgtc agtaaagatg cgatttgctt tcacgcctgc       300

gtctttgagt gcccgaacct gaatatcgag agattgctgg ctggttgata cccgtgcgta       360

accaaaaagt cgcataaaaa tgtatccyaa atcaaatatc ggacaagcag tgtctgttat       420

aacaaaaaat cgatttnaat tagacaccnt t                                      451
```

<210> 9
<211> 720
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (621)..(621)
<223> n equals a, t, g, or c

<400> 9
```
gacaaggctt ataaactcac tgacggggct ggcatgttcc tgctggtaca tcctaatggt        60

tcccgttact ggcgtctccg ttatcgtatt ctgggtaagg agaagactct ggcacttggt       120

gtgtatccag aagtttctct ctccgaagct cgtacaaaac gggatgaggc ccgaaaactg       180

atttcggagg ggattgaccc ttgcgaacag aaaagagcta aaaaagtagt ccctgattta       240
```

```
cagctctctt ttgaacatat tgcacgacgc tggcatgcca gtaataaaca atgggcacaa      300

tcacacagcg ataaagtact caaaagcctc gaaacacacg ttttcccctt tatcggcaac      360

cgggatatca caacactcaa tacccggat ctgcttatcc ctgttcgtgc tgcagaagct       420

aaacaaattt atgaaatcgc cagtcgtctg cagcaaagaa tatctgccgt aatgcgttat      480

gccgtacagt ctggcatcat cagatataat cctgctctgg atatggctgg cgcattgact      540

acggtaaaac gccagcatcg ccccgctctt gatctttcac gtctgcctga acttctgtcg      600

cgtattaaca gttataaagg ncagcctgtc acccggcttg cgttgatgct gaatttactg      660

ggtttttatt cgttccagtg aactcagata cgcccgctgg ttctgaaaat tgatattgga      720
```

<210> 10
<211> 2920
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (1)..(1)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (3)..(3)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (1250)..(1250)
<223> n equals a, t, g, or c

<400> 10
```
ncnttaattt tatatctcgt aaaataaaat gttttctgta ccgctctccg gagggggaa        60

tgattcgttt atcattattt atatcgttgc ttctgacatc ggtcgctgta ctggctgatg      120

tgcagattaa catcagggga aatgtttata tcccccatg caccattaat aacgggcaga       180

atattgttgt tgattttggg aatattaatc ctgagcatgt ggacaactca cgtggtgaag      240

tcacaaaaac cataagcata tcctgtccgt ataagagtgg ctctctctgg ataaaagtta      300

cgggaaatac tatgggagga ggtcagaata atgtactggc aacaaatata actcattttg      360

gtatagcgct gtatcgggga aaaggaatgt caacacctct tacattaggt aatggttcag      420

gaaatggtta cagagttaca gcaggtctgg acacagcacg ttcaacgttc acctttactt      480

cagtgcccct tcgtaatggc agcgggdatac tgaatggcgg ggatttccgg accacggcca      540

gtatgagcat gatttataac tgagtcatac ccaaatgaat aactgtaatt acggaagtga      600
```

```
tttctgatga aaaaatggck ccctgctttt ttatttttat ccctgtcagg ctgtaatgat      660

gctctggctg caaaccagag tacaatgttt tactcgttta atgataacat ttatcgtcst      720

caacttagtg ttaaagtaac cgatattgtt caattcatag tggatataaa ctccgcatca      780

agtacggcaa ctttaagcta tgtggcctgc aatgggattta cctggactca tgrtctttac      840

tggtctgagt attttgcatg gctggttgtt cctaaacatg tttcctataa tggatataat      900

atatatcttg aacttcagtc cagaggaagt ttttcacttg atgcagaaga taatgataat      960

tactatctta ccaagggatt tgcatgggat gaagcaaaca catctggaca gacatgtttc     1020

aatatcggag aaaaaagaag tctggcatgg tcatttggtg gtgttaccct gaacgccaga     1080

ttgcctgttg accttcctaa gggggattat acgtttccag ttaagttctt acgtggcatt     1140

cagcgtaata attatgatta tattggtgga cgctacaaaa tcccttcttc gttaatgaaa     1200

acatttcctt ttaatggtac attgaatttc tcaattaaaa ataccggagn atgccgtcct     1260

tctgcacagt ctctggaaat aaatcatggt gatctgtcga ttaatagcgc taataatcat     1320

tatgcggctc agactctttc tgtgtcttgc gatgtgccta caaatattcg ttttttcctg     1380

ttaagcaata caaatccggc atacagccat ggtcagcaat tttcggttgg tctgggtcat     1440

ggctgggact ccattatttc gattaatggc gtggacacag gagagacaac gatgagatgg     1500

tacagagcag gtacacaaaa cctgaccatc gcagtcgcct ctatggtgaa tcttcaaaga     1560

tacaaccagg agtactatct ggttcagcaa cgctgctcat gatattgcca taaatggttt     1620

atccggagcc ggatagtgtg ttgtgtgatat ctggcatgcc ccgggaagtc acctttcaga     1680

cgggcggagg gctggtgaat tatccgcgat tactgagcag tatggataat ccttttttcac     1740

agacttgtca gcagccagca tttatgttct tttatctgag ggaatttatc tgtacgctgt     1800

gccgggatat ctcagttata cagaaatcag gcaggaataa attgtagtgg aaagtcgatg     1860

tttaccggat gactgatgcg cgcttgtaca cagacagtgt gtttcagtaa tatggagaat     1920

aatgaaatga ataacacaga cacattagaa aaaataatca gacaccaaaa aaacaaagac     1980

cccgcatatc ctttcgggaa catttgttga tgcagctctg tattcgcaca aataaaagaa     2040

tgcaggataa tatatctgaa tttctggggg cgtatggaat aaatcactca gcatatatgg     2100

tcctcaccac attattcgca gcggagaacc attgtctgtc accttcagag ataagccaga     2160

aacttcagtt taccagaact aatattaccc gcattacaga tttttttagaa aaagccggat     2220

atgtaaaaag gacggatagc agggaggatc gccgtgctaa aaaaatcagt ctgacatctg     2280

aaggtatgtt ttttattcag aggctcactc ttgcacaaag catgtatctg aaagaaatct     2340

gggattatct gacccatgat gaacaggaac tgtttgaagt cattaataaa aaattactgg     2400
```

```
cacatttttc tgatgccagc tcataaagtg cgaaatatct gaggatgccg gatagcttca    2460

ggcaaaataa taatgattct tgcagatgtg tttttccgga tacaaaaaca aatgataaaa    2520

attgcagcgc caggcacctt tcaaagcagg gagacctgta ccgcgtcgaa aatttcagcc    2580

agttaatatc attgtctgaa ccaggcactt tgcccgggca ggagaaggag ttgtggcggt    2640

ctcagcccgg aacaatttga aaaccataat ctcgcttagg gccgtgtcca cattacgtgg    2700

gtaggatcac tcctggattt tctcttttg  gacattgacg tctccattgg tttaaacacg    2760

gcaatggaga ctgcggtgaa aagagttaat tcccggagtg actggctgga tgccaatcaa    2820

tgatcggaag catgccaaac tgtgaacgga gatggatgcc gccaaatcat gatcgattca    2880

gatgccatat ttgcaatatc gcgttaatcg tcagttcagc                         2920
```

```
<210>  11
<211>  1678
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (1666)..(1666)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (1677)..(1677)
<223>  n equals a, t, g, or c


<400>  11
ggtaaggaag ttatatatat gagcaactat acatcttaga tgtatgataa agaaaaagat      60

aacagttctt tagaatatgt atattgaaga gaatgcaata gcatggttta tataaattac     120

gcataaaaat aagcatatgt aagcattttg gtttgctttt tttaacctgc caccgcaatg     180

aatgcttttt ttatgttaat gtgcgttatg aaactaaatg caagaaacat atttaaagga     240

ttaatatcgt tctctcacag actccgttta cttattcaag aatataattt aatttatagt     300

gagcttatta tgaatatgaa caatccatta gaggktcttg ggcatgtatc ctggctckgg     360

ggccagttcc ccattacaca gaaacyggcc agtttctttg tttgcaataa atgtattacc     420

tgcaatacgg ggctaaccaa tatgctttat taacccgggg ataattaccc tgttgcatat     480

tgtagttggg gctaatttaa gtttagaaaa tgaaattaaa tatcctaatg atgttacctc     540

attagtcgca gaagactgga cttcaggtga tcgtaaakgg tycattgact ggattgctcc     600

tttcggggat aacggtgccc tgtacaaata tatgggaaaa aaattccctg atgaactatt     660
```

```
ccgagccatc aggtggaty ccaaaactca tgttggtaaa gtatcagaat ttcacggagg      720

taaaattgat aaacagttag cgaataaaat ttttaaacaa tatcaccacg agttaataac     780

tgaagtaaaa aacaagacag atttcaattt ttcattaaca ggttaagagg taattaaatg     840

ccaacaataa ccactgcaca aattaaaagc acactacagt ctgcaaagca atccgctgca     900

aataaattgc actcagcagg acaaagcacg aaagatgcat taaaaaaagc agcagagcaa     960

acccgcaatg ggggaaaaca gactcatttt tacttatccc taaagattat aaaggacagg     1020

gttcaagcct taatgacctt gtcaggacgg cagatgaact gggaattgaa gtccagtatg     1080

atgaaaagaa tggcacggcg attactaaac aggtattcgg cacagcagag aaactcattg     1140

gcctcaccga acggggagtg actatctttg caccacaatt agacaaatta ctgcaaaagt     1200

atcaaaaagc gggtaataaa ttaggcggca gtgctgaaaa tataggtgat aacttaggaa     1260

aggcaggcag tgtactgtca acgtttcaaa attttctggg tactgcactt tcctcaatga     1320

aaatagacga actgataaag aaacaaaaat ctggtagcaa tgtcagttct tctgaactgg     1380

caaaagcgag tattgagcta atcaaccaac tcgtggacac agctgccagc attaataata     1440

atgttaactc attttctcaa caactcaata agctgggaag tgtattatcc aatacaaagc     1500

acctgaacgg tgttggtaat aagttacaga atttacctaa ccttggataa tatcggtgca     1560

gggttagata ctgtatcggg kattttatct gcgrtttcag caagcttcat tctgagscat     1620

gcagatgcag ataccggrac taaagctgcc agcaggtgtt ggattnacca acggaant      1678
```

```
<210>  12
<211>  2676
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (128)..(128)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (447)..(447)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (1100)..(1100)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
```

<222> (2660)..(2660)
<223> n equals a, t, g, or c

<400> 12

```
aaggattact ttggaatctg acaacaaagt tactatgaaa aagaactaac aaagttatat      60

aatgacgcta aaaatgcttt gaaagatgtg caatctaaag caaataggtt aatttctgat     120

aataaganaa aacataagag tgaactaaaa aacatttctt atgaattcca atcaactaat     180

ctcaatggca aagatactgc gtatatattg gatgtaraaa gaaatctaga aagtaaaatt     240

gagaatactt caaacgaatg agtgtaatga aataagaaaa ctaaccgacc agattgcaat     300

aattagtgat agtaccactt ctgaaaattt atcatcggct caagtaactg aagcaatcga     360

aactgaactt gaacatttac gagaccaaca agcaaataac gcagagttaa tactacttgg     420

catggctctt tctgtagtac atcatgnatt taatggtaat attagggcaa ttagaagtgc     480

gctaagggaa ttaaaagcat gggctgacag aaatcctaag cttgatatta tataccaaaa     540

aatcagaact agttttgatc acttagatgg ttatttaaaa acctttacac cattgacaag     600

acgtttaagt cgctctmaaa ccaatataac tggaactgcc attttagaat ttatcagaga     660

tgtattcgat gatcgtcttg agaaagaagg aattgaatta ttcactacct caaagtttgt     720

taatcaagaa attgtaactt acacatcaac catttaccct gtctttataa atctaattga     780

taacgcaata tactggcttg ggaaacaaac tggagaaaaa agacttatac ttgatgckac     840

tgaaacagga tttgttattg gtgatactgg tcccggtgtt tcaactagag atcgagatat     900

aatatttgat atgggattta cacgaaaaac aggagggcgt ggaatgggat tattcatttc     960

caaagagtgt ttatctcgag atggatttac tataagattg gatgattaca ctcctgaaca    1020

gggtgctttc tttattattg agccatcaga agaaacaagt gaatagcgga tataaataaa    1080

tgacaagctc tactgatttn cataaacttt ctgaagactg cgttcgccgt tttttacatt    1140

ctgtagttgc tgtagatgac aatatgtctt ttggagctgg tagtgatact ttccctacag    1200

acgaagatat taatgcttta gttgatcccg acgatgatcc tacaccaata ataacagcat    1260

cagcatcccc aaggatagaa tcaactaaat caaaagcaaa ggtaaaaaac catccttttg    1320

attaccaagc tctagcagaa gctttcgcca aagatggtat tgcttgttgc ggattattag    1380

ctaaggaagg tgcgaataag cggggaaatt cttctcggct gactcagtca tttcatttct    1440

tcatgtttga gccgattttt tctcccgtaa atgccttgaa tcagcctatt tagaccgttt    1500

cttcgccatt taaggcgtta tccccagttt ttagtgagat ctctcccact gacgtatcat    1560

ttggtccgcc cgaaacaggt tggccagcgt gaataacatc gccagttggt tatcgttttt    1620

cagcaacccc ttgtatctgg ctttcacgaa gccgaactgt cgcttgatga tgcgaaatgg    1680
```

```
gtgctccacc ctggcccgga tgctggcttt catgtattcg atgttgatgg ccgttttgtt    1740

cttgcgtgga tgctgtttca aggttcttac cttgccgggg cgctcggcga tcagccagtc    1800

cacatccacc tcggccagct cctcgcgctg tggcgcccct tggtagccgg catcggctga    1860

gacaaattgc tcctctccat gcagcagatt acccagctga ttgaggtcat gctcgttggc    1920

cgcggtggtg accaggctgt gggtcaggcc actcttggca tcgacaccaa tgtgggcctt    1980

catgccaaag tgccactgat tgcctttctt ggtctgatgc atctccggat cgcgttgctg    2040

ctctttgttc ttggtcgagc tgggtgcctc aatgatggtg gcatcgacca aggtgccttg    2100

agtcatcatg acgcctgctt cggccagcca gcgattgatg gtcttgaaca attggcgggc    2160

cagttgatgc tgctccagca ggtggcggaa attcatgatg gtggtgcggt ccggcaaggc    2220

gctatccagg gataaccggg caaacagacg catggaggcg atttcgtaca gagcatcttc    2280

catcgcgcca tcgctcaggt tgtaccaatg ctgcatgcag tgaatgcgta gcatggtttc    2340

cagcggataa ggtcgccggc cattaccagc cttggggtaa aacggctcga tgacttccac    2400

catgtttgc catggcagaa tctgctccat gcgggacaag aaaatctctt ttctggtctg     2460

acggcgctta ctgctgaatt cactgtcggc gaaggtaagt tgatgactca tgatgaaccc    2520

tgttctatgg ctccagatga caaacatgat ctcatatcag ggacttgttc gcaccttccc    2580

taagagtttt aatgtttgaa gaaagagata taattacagc atcatcccac aaagcagata    2640

ttacaatacc ttgactgggn tattgccaag cggata                              2676
```

```
<210> 13
<211> 1485
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (16)..(16)
<223> n equals a, t, g, or c


<220>
<221> misc_feature
<222> (144)..(144)
<223> n equals a, t, g, or c


<400> 13
aaatttgtcc tccggntctt ttcccgtgga tacgggcatt gagacccgaa aggscctgta      60

tttgcgaccg gagaggcatc ctgggggctc agtaaaccag tggtcgctgt atggcggggc     120

tgtgcttgcc ggtgattata atgncactgg sagccggtgc cggctgggac ctgggtgtgc     180
```

```
cggggaccct ttccgctgat atcacgcagt cagtagcccg tattgaggga gagagaacgt      240

ttcagggaaa atcctggcgt ctgagctact ccaaacggtt tgataatgcg gatgccgaca      300

ttacgttcgc cgggtatcgt ttctcagagc gaaactatat gaccatggag cagtacctga      360

acgcccgcta ccgtaatgat tacagcagtc gggaaaaaga gatgtatacc gttacgctga      420

ataaaaacgt ggcggactgg aacacctctt ttaacctgca gtacagccgt cagacatact      480

gggacatacg gaaaacggac tattatacgg tgagcgtcaa ccgctacttt aatgtttcg      540

gactgcaggg tgtggcggtt ggattgtcag cctcaaggtc taaatatctg gggcgtgata      600

acrrttctgc ttacctgcgt atatccgtgc cgctggggac ggggacagcg agctacagtg      660

gcagtatgag taatgaccgt tatgtgaata tggccggcta cactgacacg ttcaatgacg      720

gtctggacag ctacagcctg aacgccggcc ttaacagtgg cggtggactg acatcgcaac      780

gtcagattaa tgcctattac agtcatcgta gtccgctggc aaatttgtcc gcgaatattg      840

catccctgca gaaaggatat acgtctttcg gcgtcagtgc ttccggtggg gcaacaatta      900

ccggaaaagg tgcggcgtta catgcaggg gaatgtccgg tggaacacgt cttcttgttg      960

acacggatgg tgtgggaggt gtaccggttg atggcgggca ggtggtgaca aatcgctggg     1020

gaacgggcgt ggtgactgac atcagcagtt attaccggaa tacaacctct gttgacctga     1080

agcgcttacc ggatgatgtg gaagcaaccc gttctgttgt ggaatcggcg ctgacagaag     1140

gtgccattgg ttaccggaaa ttcagcgtgc ttaaagggaa acgtctgttt gcaatactgc     1200

gtcttgctga tggctctcag cccccgtttg gtgccagtgt aaccagtgaa aaaggccggg     1260

aactgggcat ggtggccgac gaaggccttg cctggctgag tggcgtgacg ccggggaaa     1320

ccctgtcggt aaactgggat ggaaaaaatac agtgtcaggt aaatgtaccg gagacagcaa     1380

tatctgacca gcagttattg cttccctgta cgcctcagaa ataaatgaaa gtccggaata     1440

ttaacggctg attgaattgc ggtttatgcc attttcccgg accaa                     1485
```

<400> 14

```
ttaccaattt catcgtccgg tacatcctcc agaacatctc gcaataaact ctcgtctgcc      60

tcattccatg ccacaccagc atttgggaaa cgaggatcga tctctctttc cttcttctcc     120

ttcttacttt gctcttttcg ggatgataca gatacgacag aacgttcttt taccgctgta     180

attgccataa ctgcattgag cagagatctg cgctccacat cgttcagcat ttttccttca     240

cagatcaaat cattcaggat gtcaatgact agattcagac tttcttctgt tagcttcata     300

tttcagacct tgaagtatgt agataatcga cacaattact aatgtgataa atatcagaag     360

ataatttaca ggtaaaccgg aaaatacatc tgaagaataa aggcctcagc ttaacgtttc     420

agccagtttg tgagctgatt gaggtacggc gatgacatta acgggaatta ctcccctata     480

gctctgagct tatttttcac cctggcaaca tatggtggct actgcgcatg gttttggagt     540

agatatctta ctactcgtag aattgtgctt actggtcagg ccagcgcaca ggcattccgt     600

gcaatcaata gaacactggt ttttagtct tccgttaccc atcaggatgt tagtgcagat     660

tccggtgtat tcgatcagtt gttcggcgaa tcagcgatcg atcacgatgc gatttcgtat     720

gttagggatg ctggtatgat tactcgctga aaaataatgt gaaaaggcag tttttcttta     780

gacatttagc tcattcatgc tgttgtttta cgttttgctg tcgtgtgcag gattatcttt     840

tcgttacggg acgattcatt ccgtttttaat caggagctat tggcgttgct cattggtggg     900

atgccgtaaa gttttaccgc ggcgttaat gatgtgaagt caatccaaat caacgagagt     960

ctctcatcat gaatcaacca atacacaatg attactggtt atcccgtttt gaaagtattc    1020

tcaacagtgc cctggtgcaa caccgtgccg tctcgttaat ctgggtggat ttacgtttcc    1080

ctgagcatat gcctgtcacc atcatggatc ccgatccgga ttcagcggtg atttctcgtt    1140

ttttcgaatc cctgaaagcc aaaattcagg cttaccagcg gaaaaaacga cgtaccaaca    1200

agcgtgtgcg tgcaaccacc ctgcattatt tctggtgtcg ggagtttggc aaggaaaaag    1260

gcaggaaaca ttatcacgtg atattactgc tcaacaaaga tacctggtgc tcgccagggg    1320

atttcaccgt tccttcttcg ctggcgacgc tgatccaact ggcatggtgt agcgctctgc    1380

atcttgagcc ctggcagggt aatggactgg ttcattttc caggcggacg cytttccgta    1440

aaccggtatc atctgatgct cgcccttctt ccgatgatac gcctttgtcg ggtggatgtt    1500

ctgaaaccag gaaggcttca gacaaaaagc cgggtgaagc cgctgttctc tggatcaagc    1560

gtggtgatgt ggaagcgatg cagaaagcca tggagagagc ccgttactct gtgaagtatg    1620

agacgaagca gcatgacggt tctggtcaac gtaattatgg ttgcagccgt ggagcggggc    1680

gtctactgga tggcaggtga accctgtaaa acggcatccg gtgccagagt atatgtcaca    1740
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<212> DNA
<213> Escherichia coli

<220>
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<222> (131)..(131)
<223> n equals a, t, g, or c

<220>
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<222> (133)..(133)
<223> n equals a, t, g, or c

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<211> 746
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (718)..(718)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (741)..(741)
<223> n equals a, t, g, or c

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<213>  Escherichia coli

<220>
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<222>  (956)..(956)
<223>  n equals a, t, g, or c


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aagcggctgg aaagaaggcc aaaagagttc cagcaacaaa tctttgatcc attaaaagga   720
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cgtattgagt cacacct                                                     977
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<210> 19
<211> 400
<212> DNA
<213> Escherichia coli

<400> 19
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taacaggtaa tagcgtgcct ggtaatccgt taccgccagc gcctccgcaa tttctgcggt     240

tttccctcca ttatgcctgt tcagaaatyc cagtatttca ttcttcatat attcactcat     300

ctcactgtaa caaagttyct ycgaataata aaaatcatgc tttctgttat caacggaaag     360

gtattttat tctctgtgtt tgctttattt gtgaaattta gtgaatttgc tttttgttgg     420

ctttatttgn atgtgtgtca cattttgtgt gttatttttc tgtgaaaaga aagtccgtaa     480

aaatgcattt agacgatctt ttatgctgta aattcaattc accatgatgt ttttatctga     540

gtgcattctt tttgttggtg ttttattcta gtttgatttt gttttgtggg ttaaaagatc     600

gtttaaatca atatttacaa cataaaaaac taaatttaac ttattgcgtg aagagtattt     660

ccgggccgga agcatatatc caggggcccg acagaagggg gaaacatggc gcatcatgaa     720

gtcatcagtc ggtcaggaaa tgcgtttttg ctgaatatac gcgagagcgt aytgttgccc     780

ggctmtatgt ctgaaatgca tttttttta ctgataggta tttcttctca ttc            833


<210>  22
<211>  2916
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (2453)..(2453)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (2864)..(2864)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (2908)..(2908)
<223>  n equals a, t, g, or c
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<400>  22
tgcaccatca ctgataccac cgggaccccg gattttatcc ggtccccgcg gactgacagg      60

gtttgtgaca cctgagtcat atccgatgta aacttcattt tcacgggttg tacaggaaaa     120

ctccctgtg ccattgagtt ctgatgtgtg cccttcgcca caactcccac cgtcacggca      180

ccagttgcat ctgacgccga ccaactgctg agagccatgc cgtttccggc tttgtcgaca     240

acgcatgctg cagttcccag cgatgcgaac tggtctggca tgcattcacg aaccaacagc     300

agtggtgcta cgtccggatg caattcgcat gagctccaac cgcggttgta agttcagcag     360

cccgggcctc tgcccccggc acagtcgcat aagtattcga taccgtgcga caccattacc     420

ttcaggatac gccacggacc cgtcaccta cgaaaacgcc ggagcaccgg caatcagcaa       480

aggcagcagt gataaaagac tgatatattt cctgtcatta ttttttcatat taatttaact     540

cctgattaac cggttttttat tgatatgaga aagtaatagt tgcaatagcc ttcacacttc     600

caggtgtagt tgcatcagca attttttatat aattggctct taaattgata tgtggattta     660

cctctccct gtaatcggag aagtgccatt gactgccatt tcctttcaca ggggagtctt       720

caccatagct gatggcagtt acatcactgt ctttatatag cctgatgcca aatccttttg     780

cagtggattc actgcttaag gtcaatatat ctgttctgtt cactggctgt gatgcatctg     840

tcaatgtagc ataaacatca attccatccg ggcattgtag gtgtatgtca attttacctc     900

cctgtatttc tttatacaaa gatgtgaact gtgattgata tacggtattt aatggcacca     960

catagttttt ttgccccatg gtacatgtct gactctgtac ctgaatgcgc ccaccattta    1020

acataacagg tgctgtcagt cctttattat ttaaacttgt acgttttgct tccaacaaaa    1080

tagtaccaag ctgcctggtg ggtattgtta tatatccatt gggtaatctt cccgttgcga    1140

caaaagcaac aaacaaacga gctccgaagc ttgctgtcgc accgttataa gtattggggt    1200

ttgtattggc acctacaggg tcaatatata tacctgagct atttatgggg accagaggcg    1260

ttgcgggcca atagcccgcc atgccaataa taatacccag tccggataca ccaatatcat    1320

agatatcaaa atcagatgaa tcacggctgt ttccttgatg gaaagtatac gtaatacttc    1380

caattttagg cagtgcgggt gtaaactttc cacgcatcag agcgatggca ccgccattaa    1440

aaacatactg gttacttgtt cccgccagct ctcctatcac ccgggggatag gtatgggcat    1500

cagcaggacc aatcacaaca cctggcaatg tggatgtatt aaccgctatc tgcgaaggca    1560

cataatcatc cggacccgct accgccagct tagggagtaa aattaaaaac aatggtatga    1620

aaaagattct tttcatgtttt tttcctgatt agggtgctgt atacacgaaa caggaacgag   1680

ctgagattgc atatcatctt tattgtgtgc aacatgatat acaaatgaac atctgtcttt   1740
```

```
attatctggt cccccatacaa cgctgagatg acctttttca gggagtcccc tggtaaatac    1800

cttcccggcc tgagcgacat atccggccaa ctgtccatgt tcatccagaa cttcagaagc    1860

cattggaggg ggattgccag tagacatacg aatatcaaat aacagacttc ttcctgtttt    1920

agtgtcaaat ttyactaacg tggcgctatt agcacgagga atgatttcct gctccgtcgc    1980

cgataattca acattcaaat ctaaattgga gggatcgatg ctaatttgat ttttctcata    2040

gggtgtaaca taaggaacaa taccatttcc ccaaaaatcc agacgactac cagaggcatt    2100

attgatggca gccccctgag ctccttcagc atggataatg gcaaaagtat cactcaggtc    2160

attactcaat gtcactccat aggggtgtgc gaccaccgct cccgacgcac caaatgacct    2220

ttgattatta ttctgagtat catgcccgac tgttgtggtt atatttacat aaggtgaacg    2280

ataaccccca ttcattgcat aaccggaagg cccgttttcc tggctgtttc ctgaaagacc    2340

ataagagaac tgattatcct ccccgccagt accactaatt gatgtctgaa tactattttt    2400

ctcttctttg ctataattta aaacagtgga aaacaccggg ctttgaacac ttncctccca    2460

gagggagagt aaaattaata taaaatctgt catcacggcg ttgttgctca ttatctcttg    2520

actgagacaa tccaatttga tagccgagtt gtttccagaa gttgctgtac cccatctggt    2580

attcattacg acttcctttta tgtccccagt aattataggt tgttcctgtt aaatacatcc    2640

caccccatttt ttcacctaat tcctggttga ttgaaatctg gaattgattc ctgggacgat    2700

aaaacgctgt acttttttaca gaaacatcat caataaacgc gttgtgatta gctgatagcg    2760

catccttcag atgataaaaa tcttttgatg aataacgata agccgccaga gttatatttg    2820

tgttttgagg gctgggaata ttggatggct aataacttgg agtngcagga ctaataaacc    2880

ttttacggcg gttacaccgg gaataccngg aaatgc                              2916
```

```
<210>  23
<211>  2677
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (2522)..(2522)
<223>  n equals a, t, g, or c

<400>  23
accgcatcgc caatctcagc ggcagtggtt tacatgtctt ccgtgatgga aggtcatggc    60

atcagctacc tccatctgct ctccgtggtc atcccgtcca ccctgctggc ggttctggtg    120

atgtccttcc tggtcactat gctgttcaac tccaaactct ctgacgatcc gatttatcgc    180
```

```
aagcgtctgg aagagggcct ggttgaactg cgcggtgaaa agcagattga aatcaaatcc      240

ggtgcaaaaa cgtccgtctg gctgttcctg ctgggcgtag ttggcgtggt tatctatgca      300

atcatcaaca gcccaagcat gggtctggtt gaaaaaccac tgatgaacac caccaacgca      360

atcctgrtca tcatgctcag cgttgcaact ctgaccaccg ttatctgtra artcgatacc      420

gacaacattc tcaaytccag caccttcaaa gcaggtatga gcgcctgtat ttgtatcctg      480

ggtgttgcgt ggctgggcga tactttcgtt tccaacaaca tcgactggat caaagatacc      540

gctggtgaag tgattcaggg tcatccgtgg ctgctggccg tcatcttctt ctttgcttct      600

gctctgctgt actctcaggc tgcaaccgca aaagcaytga tgccgatggc tctggcactg      660

aacgtttctc cgctgaccgc tgttgcttct tttgctgcgg tgtctggtct gttcattctg      720

ccgacctacc cgacactggt tgctgcggta cagatggatg acacgggtac tacccgtatc      780

ggtaaattcg tcttcaacca tccgttcttc atcccgggta ctctgggtgt tgccctggcc      840

gtttgcttcg gcttcgtgct gggtagcttc atgctgtaat gacccatygc ggggcgttca      900

cgccccgctt tctttcccgc cgactaacat cctttccccg tccgttgtat agtgacctct      960

ctcttgcggt tccatctgtt cttgcgaggt gtttatgctt gatgaaaaaa gttcgaatac     1020

cacgtctgtc gtggtgctat gtacggcacc ggatgaagcg acagcccagg atttagccgc     1080

caaagtgctg gcggaaaaac tggcggcctg cgcgaccttg atccccggcg ctacctctct     1140

ctattactgg gaaggtaagc tggagcaaga atacgaatgc agatgatttt aaaaactacc     1200

gtatctcacc agcaggcact gmtgaatgcc tgaagtctca tcatccatat caaaccccgg     1260

aacttctggt tttacctgtt acacacggag acacagatta cctctcatgg ctcaacgcat     1320

ctttacgctg atcctgctac tttgcagcac ttccgttttt gccggattat tcgacgcgcc     1380

gggacgttca caatttgtcc ccgcggatca agcctttgct tttgattttc agcaaaacca     1440

acatgacctg aatctgacct ggcagatcaa agacggttac tacctctacc gtaaacagat     1500

ccgcattacg ccggaacacg cgaaaattgc cgacgtgcag ctgccgcaag gcgtctggca     1560

tgaagatgag ttttacggca aaagcgagat ttaccgcgat cggctgacgc ttcccgtaac     1620

catcaaccag gcgagtgcgg gagcaacgtt aactgtcacc taccagggct gtgctgatgc     1680

cggtttctgt tatccgccag aaaccaaaac cgttccgtta agcgaagtgg tcgccaacaa     1740

cgaagcgtca cagcctgtgt ctgttccgca gcaagacgag cccaccgcgc aattgccctt     1800

ttccgcgctc tgggcgttgt tgatcggtat tggtatcgcc tttacgccat gcgtgctgcc     1860

aatgtaccca ctgatttctg gcatcgtgct gggcggtaaa cagcggcttt ccactgccag     1920

agcattgttg ctgaccttta tttatgtgca ggggatggcg ctgacttaca cggcgctggg     1980
```

```
tctggtggtt gccgccgcag gkttacagtt ccaggcggcg ctacagmacc catacgtgct    2040

cattggcctc gccatcgtct ttacyttgct ggcgatgtca atgtttggct tktttactct    2100

gcaactcccc tcttcgctgc aaacacgtct cacgctgatg agcaatcgcc aacagggcgg    2160

ctcacctggc ggtgtgttta ttatgggggc gattgccgga ctgatctgtt caccytgcac    2220

caccgcaccg cttagcgcga ttctgctgta tatcgcccaa agcgggaaca tgtggctggg    2280

cagcggcacg ctttatcttt atgcgctggg catgggcctg ccgctgatgc taattaccgt    2340

ctttggtaac cgcttgctgc cgaaaagcgg cccgtggatg gaacaagtca aaaccgcgtt    2400

tggttttgtg atcctcgcac tgccggtctt cctgctggag cgagtgattg gtgatatatg    2460

gggattacgc ttgtggtcgg cgcttggtgt cgcattcttt ggctgggcct ttatcaccag    2520

cntacaggcc aaacgcggct ggatgcgcgt ggtgcaaata atcctgctgg cagcggcatt    2580

ggttagcgtg cgcccacttc aggattgggc atttggtgca acacataccg cgcaaactca    2640

gacgcatctc aactttacac aaatcaaaac agtagat                              2677
```

```
<210>  24
<211>  537
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (521)..(521)
<223>  n equals a, t, g, or c

<400>  24
atcctgatga cgccgtaaat gtgcatttgc caggattgcc gcatagaggg cacgaagaaa    60

aggtcggttg tcaggatgta tccagatgat tctgccactg aaaccttcag ggataagacg   120

attgccaact gccagtcctt taagggcagc attcagcgcc ttacgcgggg cattctgctc   180

cagaaatacg tatgccaagt gagcgtgtac atcaataaag tcattctcct gtcgggcaag   240

gcgcctgagt ttgttgatgt aacttgtttc gctgatttca tccgcatcgt atgcatcaat   300

cagttcttca aactcatcca gcaacgagcc aaaccaggtt tccggaaata tgaaacagcc   360

ctggttatcg ttcacttcaa agcgtaattt gccagtcata ttctgaacct gtaaaaaagg   420

atagaccata atctgcaggc tataaaaatt gtggatgcct ggcatcgggt gtcctttat   480

tgtccgggat taacgttgcc catgataata cagtgaatcc ngttctgtgg taagacg      537
```

```
<210>  25
<211>  1128
<212>  DNA
<213>  Escherichia coli
```

```
<220>
<221>  misc_feature
<222>  (1074)..(1074)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (1079)..(1079)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (1115)..(1115)
<223>  n equals a, t, g, or c


<400>  25
cgctcgagca ccagattcac tgacatgcgc aaactcatgt gtaaatcctg tctgggcatc      60

tatctcaagt aacagttccg ttaaatctac cggtgggagt agctgtttga tccgattatt     120

tagacgaagc aatgatggtg gctcttcctg tttctccaga caactgatag tcaggatgg      180

atatttacct tcattacaga tatgaacttc cgcattcttt tcaaatcgtg atgccaggct     240

ttccaggtct catccagctg aatagccagt tgttgcacac ctttacgtcc atcgacagga     300

tgtcccagtg cccgacagac aggaatacgc tgagtctgcc actcttcacc ttgcaacaac     360

ttctcgcgag gatctcccca gcgatcactg ttttcaagcc cagatgtccc cggcggcgca     420

rtgcatcctg aaggcgttcc agcaaacata gtgaataacc tgcacgctgt atcccgtccc     480

tccgcatcgt atacgaggcg tttccaggga ccggtgataa tatgttcagc gcatcatcaa     540

ggatgcgctt tttcgaacca ttcagttctg ccagatatg aatcgcagcc agtacatgtc     600

acctgccggt gccgcacgga aatgcaggtc ccgcaacacc gccggaagaa aacgtttaac     660

ccgaccgtac tgctcaacca tttcgtcatg gaaattattg ttctgtggac gagcaagttc     720

attaaccttg cttacagatt ctgccagtct gtttttgggt acgcacttga agataacctg     780

cctgagatct gggacatctg tattatcatc cagcaacaat gcacatgccc gcgccagtaa     840

caatgcggcc tgatcaagat ctttcagtgt cctgagtctt tttttttgcc cggttttctt     900

tgcttcgcgg ataatgtcca gaattagcat atcaagcaca tcaacggcat cgtctaatgc     960

cgttatttcc tgtgctttaa cgaatgcagt aagtacagca agctttctct gctgtggcat    1020

tcgagcgata tattttaccg acgccatgcc agcatgaacg agccagatta cgcnttggna    1080

atggtcaggc agaccggaa aagttccagt cgggnaaaac tccaagaa              1128


<210>  26
```

```
<211>  2311
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (3)..(3)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (2008)..(2008)
<223>  n equals a, t, g, or c


<400>  26
ggntgataaa aatcytttga tgaataacga taagccgccc agagttatat ttgtgtttga    60

ggctggaata ttgatgctat aacttgagtg cagactataa cctttacgcg ttacaccgga   120

atacctgaat gctgttctgg acaatgtaat gtcagatgct atagcacccca gatgggtatt   180

aaaggccagg ccagctaacc ccgctgtata tcctgaagct gtggtaagac cactgtttaa   240

agtaatatca ttcgtcaggc cgtattgata ggtgccttgt gctattaaat cattatatgt   300

tttattcgca taacgatact ttcccactga catttgccag cgactaaatc cgggacgaat   360

gagttgagca acggccgcaa aaggaaccgt gaacattcgt gtctggccat tagactctgt   420

tatcttaacg agaaggtcac cagcatatcc actgggatat aaatcattga tgacaaatgg   480

tccggctggc accgtcgttt catagaggat atgagcattt tgataaatgg ttactttagc   540

attactgtta gctattcccc ggacagcagg rgcatagcca cgtaaagaac cgggtaacat   600

tcgttcatcc gatgctaacc tgactccccg caaactgagg ctatccatta gctcaccatt   660

cgtataaaaa tccctaatg tgaattgtgc tctcaatggg gcaaggtcat gcattatact   720

tgtttctata ttctgatatc cggcaggata gctattattc cagctctcac tgccacggtg   780

gcgcaaagcc atccccacaa attgaatcca gcttttaatc ccagataagt ctgttcgtta   840

ctcgtcccgg aagagctata ctggtaatag ttagcatcat agtttataaa tgctgcagga   900

acaccacttt gccactgaga aggggaaata tatcctcttg gacgtgtatt cagcagtgct   960

gcgggatttc gatattcaac cttaaagtcg ataagtcaaa attaattctg gctgaagaaa  1020

gccctgttga cgccggaaag caggaggtgt ttcccgacat agtatctttg actaaatcaa  1080

tcaatgaaag cagctcaggc gtcaggcata acgtcggagc accggtattg gcagtacgta  1140

aatactgcaa atcagccttc cccttccata cattattaac ataaatatca gaataatacc  1200

tgccctcagg cacagggtta ccatgactaa agcggcggat atcaatagca tttatccctt  1260

tatccaaatg caaaaactca gaatcaaact cagcctcttc agcagcaaat gaatggtttg  1320
```

```
ttactgttaa ccctaatgca gcaaaaagca gaagagaaca acgacagtaa atcaggcatg      1380

acagattatt agcgttcatt attaccttac tccagaacag attctccttg ctgatatcct      1440

ccgtaatcat taacaataac ccaggaaact ttgctggtgg cgcagttctg cctttaagtg      1500

caaatactgt tgaagagaaa gggggaatca ttccaccatg ttcaacaggc gttaagtgct      1560

tattctggtc aactgcaatt ttgttgtagg ttatgtaata aggtgttgga ttaactgctt      1620

taattcggcc ttcctcctgg tgccaggtaa ctttcagata agcatcattt ggtgttaact      1680

tcaggtgagc aggacgaaag aaaaatttta tgcgactacg aacagctagt tgcaaataat      1740

tattattccg ctgctctgag ttatcggagt cttttttttgc cctgggcttt gctggaatat      1800

ccagaacatt tagatagaaa agagattctc ggtctttcgg tagtgactcg cctgtatata      1860

caattctgac tgtttgtcct gatttagagt ccatacgaaa tattggcgga gtaatgataa      1920

aaggacgtgg actgactcag ggggagctgc tgcatctcca tcgycaacca ggactggact      1980

aatgccgaga tttcattgtc attatttnaa cgtatgctaa tactcttttg agtcgccgga      2040

taaacaacac gggttcccat gataactaca ctaccctgaa caactgcaga tacagataga      2100

gtaaaaaaaa acagcacaaa ccttagcatg gtatctccag aagaaagcag ggcagtattt      2160

cctgccccaa aatacaaaac cgtttgttat tcgtaggcga tggtataatt gactgttgtt      2220

tttacattgc ctggagttga tgtcccggtc gcataatatt gagccatata acgtaatgtg      2280

gcattaccat ccccaccaat agtttcagaa t                                    2311
```

```
<210>   27
<211>   1118
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (142)..(142)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (228)..(228)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (261)..(261)
<223>   n equals a, t, g, or c


<220>
```

```
<221>  misc_feature
<222>  (693)..(693)
<223>  n equals a, t, g, or c


<400>  27
tattacctgt gattttccg ggcgtaaatg gagtccctaa agttatcgca gtcccaatat      60

ttcctgcatt actgttataa agataaacga gtaacccatc agaagatgtg tttgatgtat     120

tctgaactaa aatagcattg tnataagtgt ttgttgccgt tatcgtaacc ttcattgttc     180

ccagattata gggacaccgc atattcacag taaactcttt ttcgtgantt ccattttgac     240

tcagggtctg aatctctaca ncctgccagt caacagttgt gttgcttaca gtacaggcag     300

gaataatcag ttttcctctg aaggtcagat tatcaactgc atgtacatgc tgagacatta     360

acactgcccc cagcattacc ggaagacaca aacctcttat cttttttcatc tgaaatatcc    420

tgtacaaaaa ttttgctaac gatatgtcaa ttcaaacgtg gctgttgctt cataatcacc     480

gggtaccaca ctcttcgtcc gcagggcttc cggcgttgcc acaacatacg cgccgaaagg     540

aagtcaaga ctgtttccgg taaccttttc cccctggcct ttgttatggg aggtgccggg      600

tttcagcaga ctgctgccat cggtgtccag cagtgcaatg cctaaccggc cagcattcac     660

tccggttacc ttcagatggc ccgggagrcg cyntcttccg tcccctaaa ggtcagggtc      720

acaattttgc caactgctgt tgcatggcag ttttccagcc tgatgacaaa cgactctgtc     780

ggcgaacgtc cgggcgata ccagaaatcc ctggacgccc gggttttgaa gacgacatgt       840

ttattcgac tgtcaccgga cacatggcag ggtctgtcaa gcagattacc cctgaatgcc       900

acatctgagg ctattgcctg tccggcagac agtgcggcaa acagtaaaag agcgcctgtg     960

cttttatca tcacattccc ttactcatat tttatgctca gacgcagcat ggccggattg     1020

ctcctggcat cagaatactc aacctcctgt ggcggccttt tcctccaggc gggcaagcat     1080

ctcctcctgg cggcgggtaa ggcggggaca gtaaaaaa                             1118


<210>  28
<211>  562
<212>  DNA
<213>  Escherichia coli

<400>  28
ttcgtgggtg aaatcgtagg ccgcgctttt ttgctgatcg gccagttgat gaatagggtg      60

gccakgatcg ggataaaacg tacaggcagc gataaacaga cagcccggat agcggttgtt     120

tttaacgcac tccgataacg cctgataacg tgccagcaac ttttgttcgg cggtttgcgt     180

ttcgtccagc atcagctgac gacgccagac atctatctgt tggctaagat aacgcagcgc     240

atcgtagagg attgcctctt tgtctggcca gaagcggcgt actcgtccag tggataatcc     300
```

```
acacgttcag caaccatctc cagcgtggtg ttggcaatcc cttgtaattc taataatttc      360

agggcttctc ccagtacatc ttcacgttgc acgctatttt cctccgkctt tcccactgca      420

atgttcgktc acggttggcg atcgcgcaaa tgtgcgctgg aaggtttcag catccataaa      480

gcccgtgacg cgtgcttgtg gatgctcctg gccttggtcc ggtcaaaaaa gagaatttgt      540

ccggtagggc caaggatatt aa                                                562
```

```
<210>  29
<211>  745
<212>  DNA
<213>  Escherichia coli

<400>  29
ccatcgcttt acccagaaa agttaagcca tataatgtga gggatataag tcgtcgtatc        60

cggtaagtac agataaccac aacataagct cattcagtaa attttatctc tgaacaaacg      120

actatggcat gctcatttat actattcata agaaagtgtg attatctgta agcattaacc      180

atcaaatcat ataaccatac taaactggcg gatcatcagc accattagca ggtaacttat      240

tgaaatttta ttatgtgttt tttgttgata attaatatgc aatatgaatt tgctatttta      300

gaatcatgaa caccatttaa aattaccatc attaacatca tataaaaata tatttttact      360

aaaacatgaa ttgtatatat ttattagctc aggaaaatta tcagggttca ccttcaaatt      420

aacctgaatg ttatgcttaa tttcacccag tagttcttca tgtgtgatt ttattatccc       480

attattataa tcgataaatg cacacatgtt ttttatgaat tcaaaacctt ttcctgtata      540

cagtttaatg aatgccacca gagcaaacat ttcaagatgt agccataatg ctacgttagt      600

tttttgcaaa gtataaaaaa ttgaattcgc cactttttta cttattgctc ttttatactg      660

tgatcgagca agattcagta gcggaagtcc tcgttcaata aatgaatgtg aaaagactgg      720

ataaattgat gtcggaaacc tttca                                             745
```

```
<210>  30
<211>  400
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (6)..(6)
<223>  n equals a, t, g, or c

<400>  30
gcgttnatgc atttcgasat tttccacttc gttctgacgt tgcactgctt tggcgtcatc        60

attacgtaac gtatcgagga aatcgaggta gccctgatca acatctttgg tgacgtagac      120
```

```
gccgttgaac accgagcatt caaactgctg gatatccgga ttttcagcgc gaacggcgtc      180

gatcagatcg ttcagatcct ggaaaatcaa cccgtcagca ccgatgatct ggcgaatttc      240

atcaacttcg cgaccgtgag cgatcagttc cgtggcgctc ggcatatcaa taccataaaa      300

cgttcgggaa agcgaatttc cggtgccgca gaagcgaggt acactttctt cgctccggct      360

tcgcgtgcca tctcgataat ctgtcagaag tggtgccacg                            400


<210>  31
<211>  824
<212>  DNA
<213>  Escherichia coli

<400>  31
tgtcgacgat gaggcagcca gagcattaga gccgaaaaga agggatgatg ccatgactgc      60

tgttgctata aaatgtttca tatattctcc atcagttctt ctggggatct gtgggcagca     120

tatagcgctc atactagggg tttgagggcc aatggaacga aaacgtacgt taaggagata     180

attcgttgtt tatatttaaa tttagagctc tcagttcccc ttttaaaata tcctctggca     240

acgtgaatgt ataatggccc aacatattga tatgcccgtg catcagggga gatagccgag     300

cgatatcttc atctataatt tcttcgccat tacggcgcat ccagctcaac gcttcctcca     360

tatagagcgt gttccacaga accactgcat tagtaaccag gcccagcgcc cccagttgat     420

cttcctgccc ttcacgataa cgctttctga tctctccgcg ttgtccgtaa caaatcgcac     480

gagccacagc gtgcgktcct tctcctcgat taagctgcgt caggatccgc cgacgataat     540

cttcatcatc aatataattg aggagatata gcgtttgtt tacacgccct acttccataa      600

ttgcctgtgc cagtcctgat gggcgcgagc ttttcagtaa agagcgaatg agttctgacg     660

catgaattgt acccaacttc aggaaccagc ggttcgcatc atctcatccc actgactctc     720

cgcttttgac agatctgcat atcctcgggc caacttatcc agtactccgt agtttgccga     780

tttattcacc cgccagaaca ccgcctcacc tgcatcggca agcc                      824


<210>  32
<211>  911
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (841)..(841)
<223>  n equals a, t, g, or c

<400>  32
acaaatcaga ccagttaacc agtcagtcgg ttttatgatt tcactcacta tactttgttt      60
```

```
cataaggatt tcaggatctg ccagactgcg cagaaatgat gcttacgaat acacagtaaa       120

ggcaatgtca tttccgatac agagcctgac attgccataa tgagctattt atctgaaaaa       180

cgacagaata tgatgtttta tcgtaacgta attttaagtt ctcaacttat tgagacatat       240

tgtcttttt acccatgtgg tcatttttca tcccatccgt tttgctcatg tgttctttct       300

ccattttctc tttatccatt gcattttgtc acataccatc cttgcacatt ttatcatgcg       360

cgctggacat gctgcctttt acttcatgtg ttttatccat tgtgtctgct gcctgagcat       420

tgaacatgaa cagcgcggat agtacagttg cagaaataat attttcatg gttcttcctc       480

attttaaca attgtatcaa caaccaccaa accagttata accctgtgtct tcccagtacc       540

cccccggaaa atgattagtg acctctataa cctgaacatg cttgggggttt ttatatccca       600

gcttagtagg gatacgtatc tttatgggat agccatattc ttttggcaat accctgttat       660

tccatgtcaa tgtcagcaat gtttgtgaat gtagtgctgt cgccatatca atactggtgt       720

agtaaccatc gacgcaacga aaactgacgt attttgcccg catatcggca ccaatcagcg       780

tcaggaaatg ccggaatggt atccctcccc attttcctat tgcactccat ccttcaacac       840

ngatatgacg ggttatctga ctcacatgct gcatgttata caattcagac caaaaaccag       900

ttacgggtta t                                                           911
```

<210> 33
<211> 463
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (1)..(1)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (27)..(27)
<223> n equals a, t, g, or c

<400> 33
```
ngggggcagga taattgtatc ctgcccngta tataattctc agcacaggtg ttgactaaag        60

agcgtgaaac tttgctatta tgtcttcgta agattcacgg acggttatac ttgagcctga       120

ttctgtgaag taaacaacag cagaagcatc gttgcctttt tcaatgtatg aaacattcca       180

gtcatggata gccactgcgg gctgaccatt atcccgacgg tgcgtcttaa tgaatcgcgg       240

aagtaattct gcaatatcgt taaaaacacc atttacggta tgagtgatac caccaacgca       300
```

```
atgtagatga gttgactccg gggtatcatt gtctgcttct gcaaagagta tagctgtctt      360

gctaattgta acaggcgcct gtgarcggga taattcgaga gaaataaacc cggattctgc      420

cataaaaact ccagtttgtg atgttatatc atttcatatg ttt                       463
```

```
<210>  34
<211>  565
<212>  DNA
<213>  Escherichia coli

<400>  34
ttctaacctc tgaccaaaaa cagaattacg gttgttatgc tgcagaacct aatgacgtgc       60

aactggcgcg ctatttcat cttgatgaac gggatctggc cttcattaac caacgacggg       120

gcaaacataa taggctgggc attgcgcttc agctcaccac agcccgtttt ctgggaacat       180

ttctgacgga tttaactcag gttctgcctg gtgttcaaca ttttgtcgcg gtacagctta       240

atatccaccg tccagaagtt ctctcccgct atgctgaacg ggacactacc cttagagaac       300

atactgcatt aattaaggaa tattacggct atcatgaatt tggtgatttt ccatggtctt       360

tccgcctgaa gcgtctgcta tatacccggg cgtggctcag taatgacgac cgggtctgat       420

gtttgatttt gccactgcat ggttgcttca aaataaggta ttactgcccg gagcaaccac       480

actagtacgt ctcatcagtg aaattcgtga aagggcaaat cagcggctgt ggaaaaagct       540

ggccgcactg ccgaacaaat ggcag                                            565
```

```
<210>  35
<211>  512
<212>  DNA
<213>  Escherichia coli

<400>  35
cgatggcgtc cggggtgaac gccggataag tttaatttat ccggtcaggc aaaaggcatt       60

aatctgcaga tagctgatgt caggggaaat attgcccggg caggaaaagt aatgcctgca       120

ataccattga cgggtaatga agaagcgctg gattacaccc tcagaattgt gagaaacgga       180

aaaaaacttg aagccggaaa ttattttgct gtgctgggat tccgggtcga ttatgagtga       240

gtcactccgg tgagatgtcc ggttatttat ctttttttgtg aatctggtga tgcgtggaat       300

gaaagacaga ataccttttg cagtcaacaa tattacctgt gtgatattgt tgtctctgtt       360

ttgtaacgca gccagtgccg ttgagtttaa tacagatgta cttgacgcag cggacaagaa       420

aaatattgac ttcacccgtt tttcagaagc cggctatgtt ctgccggggg caatatcttc       480

tgggatgtgg aattgttaac ggggccaaag ta                                    512
```

```
<210>  36
```

```
<211>  827
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (16)..(16)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (361)..(361)
<223>  n equals a, t, g, or c


<400>  36
```

ttgccggtgc ggttantagt ggcagtggtg tcttttggtg taaatgctgc tccaactatt   60

ccacaggggc agggtaaagt aacttttaac ggaactgttg ttgatgctcc atgcagcatt   120

tctctcagaaat cagctgatca gtctattgat tttggacagc tttcaaaaag cttccttgag   180

gcaggaggtg tatccaaacc aatgactta gatattgaat tggttaattg tgatattact   240

gcctttaaag gtggtaatgg cgccaaaaaa gggactgtta agctggcttt tactggcccg   300

atagttaatg gacattctga tgagctagat acaaatggtg gtacgggcac agctatcgta   360

nttcagggggg caggtaaaaa cgttgtcttc gatggctccg aagtgatgct aataccctga   420

aagatggtga aaacgtgctg cattatactg ctgttgttaa gaagtcgtca gccgttggtg   480

ccgctgttac tgaaggtgcc ttctcagcag ttgcgaattt caacctgact tatcagtaat   540

actgataatc cggtcggtaa acagcggaaa tattccgctg tttatttctc agggtattta   600

tcatgagact gcgattctct gttccacttt tcttttttgg ctgtgtgttt gttcatggtg   660

tttttgccgg tccgtttcct ccgcccggca tgtccccttcc tgaatactgg ggagaagagc   720

acgtatggtg ggacggcagg gctgcttttc atggtgaggt tgtcagacct gcctgtactc   780

tggcgatgga agacgcctgg cagattattg atatgggggga ataccccc   827

```
<210>  37
<211>  400
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (238)..(238)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (364)..(364)
```

<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (384)..(384)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (398)..(398)
<223> n equals a, t, g, or c

<400> 37
ccaggggccc aaaatccgtg tatccacctt taaagaaggc aaagtttttcc tcaatattgg   60

ggataaattc ctgctcgacg ccaacctggg taaaggtgaa ggcgacaaag aaaaagtcgg   120

tatcgactac aaaggcctgc ctgctgacgt cgtgcctggt gacatcctgc tgctggacga   180

tggtcgcgtc cagttaaaag tactggaagt tcagggcatg aaagtgttca ccgaagtnac   240

cgtcggtggt cccctctcca acaataaagg tatcaacaaa cttggcggcg gtttgtcggc   300

tgaagcgctg accgaaaaag acaaagcaga cattaagact gcggcgttga ttggcgtaga   360

ttanctggct gtctccttcc cacnctgtgg cgaagatntg   400

<210> 38
<211> 578
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (106)..(106)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (501)..(501)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (549)..(549)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (556)..(556)
<223> n equals a, t, g, or c

<400> 38
```
ccgatttttt gcgaaacgtt ccgcctggca tcaggatagt ttgttcgtta tccagttcgg        60

atagcgcatt gacgatatgc aggctgttgg tcatcaccgt gatgtnatta aagcgcgaga       120

gcaggggaac catctgcaaa acggtactgc cagcatcaag aatgatcgaa tcgccatcat       180

ggataaaact aacggcagct tctgcaatca gctctttctt gtgggtgttg atgagtgttt       240

tatgatcgat aggcggatcg gattcctctt tattcaacac cactccgcca taagtacgaa       300

tgacggttcc ggcatgttcc agaatgacca gatctttgcg aatggktgtg cctgtggtgt       360

caaatattgc gccattcttc aaccgagcat ttaccctgct ttgcagatac tccagaatgg       420

cggcctgacg ctgacgagtt tcatgggcgt gatacctgat ttaggttcaa atgataactc       480

gcaagcagta acatccacg naatatccac gttcagttaa gcgccatgat agagcatccg       540

tgatagggnc aggggnagtc acacggcgta atcaccgc                              578
```

<210> 39
<211> 399
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (380)..(380)
<223> n equals a, t, g, or c

<400> 39
```
tgttaggtca gggcccacag tcaagcttag gttttactga atatacctca aatgttaaca        60

gtgcasatgc agcaagcaga cgacactttc tggtagttat aaaagtgcrc gtaaaatata       120

tcaccaataa taatgtttca tatgttaatc attgggcaat tcctgatgaa gccccggttg       180

aagtactggc tgtggttgac aggmgattta attttcctga gccatcaacg cctcctgata       240

tatcaaccat acgtaaattg ttatctctac gatattttaa agaaagtatc gaaagcacct       300

ccaaatctaa ctttcagaaa ttaagtcgcg gtaaatattg gatgtgctta aaggacgggg       360

aagatttcat cgacacgtcn gcgtgcaatc tatccgtat                             399
```

<210> 40
<211> 327
<212> DNA
<213> Escherichia coli

<400> 40
```
cagcctccgt taccggacag caaggaggct gaatggagtt tacaggattt gcttttttat        60

aatgtctggc catgcagtma aaccggacag gtttttattat catgtgaggt attctgacat       120

aaaatgctgg atttttattt tgtgacgaat gctgcaaaat tgcatctgca ctctgatgta       180
```

```
gcttttatct gtttcagtga agcatgccca caaactgagt tattaagttg tggaagaaca      240

gttttgtccc gcctgcatat ctcctttcaa aaaccagtat gtcgccatgc ctcgccttaa      300

tggagagcgc tgaaccatac cttcttt                                         327
```

<210> 41
<211> 314
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (72)..(72)
<223> n equals a, t, g, or c

```
<400>  41
ggagatgggc atggaactca cttcataata atgcctaccg aagaaatatt aatagatgac       60

atttccacga gngatagcaa taaaacatca gagcagtctt ctcgcttaga aaaagcttta      120

ttaggtttta caaacacaat gtacagtgat tcaaaccctc ctattatagc tcgtttagaa      180

gactatctgg aagatggtga gtgcattgac agaattagcg aatcaatttt ttttacaccg      240

caagaattca atcttgcaga tcaccacatt gaaggatggt tcaatgaatt tggtcaattc      300

agtggaactg tttc                                                        314
```

<210> 42
<211> 590
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (44)..(44)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (58)..(58)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (142)..(142)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (145)..(145)
<223> n equals a, t, g, or c

```
<220>
<221>  misc_feature
<222>  (491)..(492)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (584)..(584)
<223>  n equals a, t, g, or c


<400> 42
tcccaagatc tttttggccg caaatccaca aaacccgtcg ttantgtcgc gcagccantt     60

gcaggccgaa tttgcaccgt tttagaaagc ggcgttttgt agagcagcac gcagtgagaa    120

gccaccgcgc cacgacctac gngcncgcgc agctggtgta attgcgccag acccagacgc    180

tccgggtttt cgataatcat cagactggcg ttaggcacat caacgccgac ttcaataacg    240

gttgtggcaa ccagcaggtg tagctcacct tgtttaaacg acgccatcac cgcctgtttc    300

tcggcaggtt tcatccgccc gtgtaccagg ccaacgttca actctggtag cgccagtttc    360

aactcttccc aggtagttcc gmcgcctgcg cttccagcaa ttccgactct tcaatcaacg    420

tacaaaccca gtatgcctga cgaccttcag ttatgcaggc gtggtgcacc gggtgcaatg    480

gatgtcggta nngcgggtat caggaatagc gaccgtagtc actgggcgtg cggcctgggc    540

ggcactccat ctatcaccga gggtatcgag atcgggcata cgcntgcatt             590


<210>  43
<211>  400
<212>  DNA
<213>  Escherichia coli

<400> 43
gacgaaaggg cctcgtgata cgcctatttt tataggttaa tgtcatgata ataatggttt     60

cttagacgtc aggtggcact tttcggggaa atgtgcgcgg aacccctatt tgtttatttt    120

tctaaataca ttcaaatatg tatccgctca tgagacaata accctggata aatgcttcaa    180

taatattgaa aaaggaagag tatgagtatt caacatttcc gtgtcgccct tattcccttt    240

tttgcggcat tttgccttgc ctgtttttgc tcacccagaa acgctggtga agtaaaaaga    300

tgctgaagat cagttgggtg cacgagtggg ttacatcgaa ctggatctg caacagcggt    360

aagatccttg agagtttttc gccccgaagg aacgtttttc                       400


<210>  44
<211>  400
<212>  DNA
```

<213> Escherichia coli

<220>
<221> misc_feature
<222> (20)..(20)
<223> n equals a, t, g, or c

<400> 44
attcggaaag atgcttctan tttttttaag cacgtataaa ctgttaattc aggttcaatg   60

ctacgaaatg cactagttat aacctgtatt gaaggaaaga tcttctgata ctctttccag   120

agatcttcaa gtctggccat ggaaattgac ttggctgcat attctaggtc agtgtttatg   180

atagtttctc tattctctct gaatgcggaa aaaaaagctt cattcaacaa tgatagtaaa   240

tccctgggcc ggtaaagggt aaattgcaaa catcgcttaa aaccattcct ccctttaaga   300

tcatccgctg tgcatctatc ccaaactcgt tgatctttct caatatctag cttaaatgct   360

actttcattc ttttagctga cagcattagg agttgtgccc   400

<210> 45
<211> 585
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (25)..(25)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (178)..(178)
<223> n equals a, t, g, or c

<400> 45
taatgttgaa gacagagata taatntacag catcatccca caaggcagat ataacaatac   60

ttgactggga tatgcaaagc gatagtgggc aatttgctat tgaaataata aaatcgataa   120

tcgtttcaga tataaattct ggaggacgtt tacgtcttct ttctatttat actggtgnac   180

atgttactgc tgttataact aagttgaaca atgagttaaa gaaaacatac cgtagcgtaa   240

taaaaaatga tgatagtatt tttattgaag ataactatgc actcgaacaa tggtgtatag   300

ttgttattag taaagacgtt tatgaaaaag atcttccaaa tgtgttaata aaaaaattca   360

ctaaccttac agctgggttg ctatccaacg ccgcactctc ttgcatttct gaaataagag   420

awaaaaccca tgggatatta acaaaatata ataataaatt agacactgca tatgtttccc   480

acatcttaaa tttaataaaa tccaaggrgt caagggcata tgcttatgaa aatgctcatg   540

attatgcagt agatttaatt tctgaagaaa taagatcaat attgc   585

```
<210>  46
<211>  390
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (2)..(2)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (195)..(195)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (198)..(198)
<223>  n equals a, t, g, or c


<400>  46
antcatccaa ctggccgatc agcaaaaaag cgcggcctac gatttcaccc acgaactgtt       60

aaccacgctg gaagttgacg atccggcgat ggtagcaaag cagatggaac tggtgctgga      120

aggctgttta agccgaatgc tggtgaatcg tagccaggcg gatgtcgaca ccgcacatcg      180

gctgcgcgaa gatantcntt gcgttcgccc gctgccgtca gggtggtgca ctgacctgac      240

agaaacacag aaaagaagcg atttgccgca atcttaagca gttgaatcgc ttttactgaa      300

attaggttga cgagatgtgc agattacggt ttaatgcgcc ccgttgcccg gatagctcag      360

tcgtagagca ggggattgaa aatccgttgt                                       390


<210>  47
<211>  473
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (437)..(437)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (465)..(465)
<223>  n equals a, t, g, or c


<220>
```

```
<221>  misc_feature
<222>  (468)..(468)
<223>  n equals a, t, g, or c


<400>  47
ggatgccagt gtcagcgact ggttaaagtg gtcgatatcg atgagcaaat ttacgcgcgc      60

ctgcgcaata acagtcggga aaaattagtc ggtgtaagaa agacgccgcg tattcctgcc     120

gttccgctca cggaacttaa ccgcgagcag aagtggcaga tgatgttgtc aaagagtatg     180

cgtcgttaat tttatctcgt tgataccggg cgtcctgctt gccagatgcg atgttgtagc     240

atcttatcca gcaaccaggt cgcatccggc aagatcaccg tttaggcgtc acatccgtcg     300

tcccctggca aacgggggcg attttcctcc atttgcctca gtggctggcg tttcatgtaa     360

cgatacatga cagcgcccga caagatcctg atactctttg ggtattcaac cgtttccagt     420

gtaattcgtc gttcacnaac attggcgtta caggcggggc tggcngtnac cca            473


<210>  48
<211>  482
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (48)..(48)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (87)..(87)
<223>  n equals a, t, g, or c


<400>  48
gaagtgacgg atggctgtgg tttctccatc ggtcaccagc agcagttngc atcatggatt      60

gcctataaag tcgcgccgtt cctcggnaaa aaagaggaga gcgttgaaga cctcaaattg     120

ccgggctggc tgaacatttt ccacgacaac atcgtctcca cgcgattgtg atgaccatct     180

tctttggtgc cattctgctc tcttcggtat cgacaccgtg cagcgatggc aggcaaagtg     240

cactggacgg tgtacatcct gcaaactggt tctccttgc ggtggcgatc ttcatcatca     300

cgcagggtgt gcgcatgttt gtggcggaac tctctgaagc atttaacggc atttcccagc     360

gcctgatccc aggtgcggtt ctggcgattg actgtgcagc tatctatagt tcgcgccgaa     420

cgccgtggtc tggggcttta tgtgtgggcac catcggtcag ctgattgcgg ttggcatcct     480

ag                                                                    482
```

```
<210>  49
<211>  185
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (168)..(168)
<223>  n equals a, t, g, or c


<400>  49
gacgacctgc aggcatgcaa gcttggcact ggccgtcgtt ttacaacgtc gtgactggga        60

aaaccctggc gttacccaac ttaatcgsct tgcagcacat ccccctttcg ccagctggcg       120

taatagcgaa gaggcccgca ccgatcgccc ttcccaacag ttgcgcanct gaatggcgaa       180

tggcg                                                                   185


<210>  50
<211>  491
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (472)..(472)
<223>  n equals a, t, g, or c


<400>  50
taacgcttca atacgcgcga ccagctggcg gcgctcatac ggcgtaattt tggcgtcggc        60

gagcaaaatc ccttgtttaa aggtattttg ccagctgccg tcgtcatatt ggcgagcttg       120

ctgacgcgac tgcgcaggca ttaaacgatc agcacaatcc atcgcccgca gccagtaaag       180

cggattggtt tcggttgatt taccttgcag cgcccagatg tcgctacatt cagtagaaag       240

atagtcagcc agttgataaa ccggaatttt ttcttctgct ggcgtatcaa tggctggctt       300

attgtgattc tgcacgcaac ccagcaatgc cagacatgga gaccctgcca gccacagccg       360

tcggggcaat aatcgttgaa aaatgtgtcg catattcacc agacttaaag cctatcccag       420

tgggcgtaat tgttgcagac agtctggaca tggacagcgc ggagaaaccg gnagcgtaca       480

tatcgtacgt g                                                            491


<210>  51
<211>  106
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (105)..(105)
```

<223> n equals a, t, g, or c

<400> 51
acttgaacgg caattattat ttatccatgc aacttcaagt tgcagtatcg gaacattaac   60

ttttctgggg tgaatatcac tctgatatcg tttttgtat gcgtnt   106

<210> 52
<211> 481
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (439)..(439)
<223> n equals a, t, g, or c

<400> 52
tttatgtgcg gtattgatgg ctgaagcctg taatatcgga ctggaaccgc tgataaagca   60

caatatacca gcactgaccc gccatcggct cagttgggtg aaacagaatt accttcgtgc   120

agaaacgctg gtcagcgcca atgcccgcct ggttgatttt cagtccacac tggagcttgc   180

tggtcgttgg ggaggtggag aagtggcatc agctgacggc atgcgctttg tcacaccagt   240

gaagaccatc aactcaggat ctaacagaaa atattttggt tctgggacga ggcatcacct   300

ggtataactt cgtatctgga tcagtactct gggttccatg gcattgtggt acccggtaca   360

ttacgggrct cgattttgta ctggaaggac ttcttgagca gcagacaggg ctgaatccag   420

ttgaaatcat gacagacant gcgggtagca gcgatattat tttcggtctg ttctggctac   480

t   481

<210> 53
<211> 558
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (4)..(4)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (36)..(36)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (69)..(69)

<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (456)..(456)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (462)..(462)
<223> n equals a, t, g, or c

<400> 53
tggnccgtaa ttcccaacca tttgccgagg tccagntttt tcaccatgtt actcgggata   60

gccaaaacng ataccgatgt tgccgccgtc ccggtgcgag gatcgcggtg ttgataccga   120

tcagttcgcc gttcaggtta accagcgcac caccggagtt accacggttg atcgctgcat   180

cggtctggat gaagttttcg tagttttcgg cattcaggcc gtacgcccca gcgcagagac   240

aatcccggaa gttaccgtct cgcccagacc aaacgggtta ccaatcgcta cggtgtaatc   300

acccacgcgc agtgcatcag aatccgccat cttaattgcg gtcaggtttt tcgggttctg   360

gatttggatc agcgcgatat cagagcgcgg atctttgcca accatcttcg cgtcgaactt   420

acggccatcg ctcagttgaa ctttaatgac cgtcgngtta tnaacaacgt ggttgttggt   480

gacgacatag cctttatcgg catcaatgat gacgccggaa cccagcgcca tgaattctgt   540

tgctggccgc caccatta   558

<210> 54
<211> 263
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (37)..(37)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (180)..(180)
<223> n equals a, t, g, or c

<400> 54
cacctgcgtg acgtgaccga cctttctcc tcgctgnttg tttccctat cgtcggcctg   60

gtcattgcgg gaggcctgat attcctgctg cgacgctact ggcgcgggac gaaaaaagcg   120

tgaccgtatt cgccgcattc cggaagatcg caaaaagaaa aaacggcaaa cgtcaaccgn   180

cattctggac gcgtattgcg ctgattgttt ccgctgcggg cgtggcgttt tcgcacggcg   240

cgaacgacgg accaaaaggg atc   263

<210> 55
<211> 683
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (517)..(517)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (600)..(600)
<223> n equals a, t, g, or c

<400> 55
gtaacgcgtc tggaagatgg cctgccagtg ggcgtcgtcg atgtggtcga ggggctggac   60

ggttgccatt ccgccaatat ctcaccggac aaccgtacgc tgtgggttcc ggcattaaag   120

caggatcgca tttgcctgtt tacggtcagc gatgatggtc atctcgtggc gcaggaccct   180

gcggaagtga ccaccgttga aggggccggc ccgcgtcata tggtattcca tccaaacgaa   240

caatatgcgt attgcgtcaa tgagttaaac agctcagtgg atgtctggga actgaaagat   300

ccgcacggta ataatcgaat gtgtccagac gctggatatg atgccggaaa attctccgac   360

acccgttggg cggckgatat tcatatcacc ccggatggtc gccatttata cgcctgcgac   420

cgtaccgcca gcctgattac cgttttcagc gtttcggaag atggcagcgt gttgagtaaa   480

gaaggcttcc agccaacgga aacccagccg cgcggcntca atgttgatca cagcggcaag   540

tatctgattg ccgccgggca aaaatctcac cacatctcgg tatacgaaat tgttggcgan   600

caggggctac tgcatgaaaa aggccgctat gcggtcgggc aggaccaat gtgggtggtg   660

gttaacgcac actaaccgct gat   683

<210> 56
<211> 282
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (231)..(231)
<223> n equals a, t, g, or c

```
<400> 56
tggatgcagg gaaaaacatt gatattaccg gggcaacgtg ctcgtccggt ggagaccttg        60

gaatgtctgc gggtaatrac atcaacattg ccgtaaacct gataagcggg acaaaagtca       120

gtccggtttc tggcacactg atgacaacag ttcatcatcc accacctcac agggcagcag       180

catcagcgcc ggcgataacc tgggcgatgg ctgcaggcag agatkctggg ntgtcacagc       240

atcctctgtt tctgccgggc acagcgccct gctttctgca gt                         282
```

```
<210>  57
<211>  697
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (36)..(36)
<223>  n equals a, t, g, or c

<220>
<221>  misc_feature
<222>  (696)..(696)
<223>  n equals a, t, g, or c

<400>  57
atgaacggcc cccccacag cccgttaaca aacggntgcc ccggcgataa tcgtactgat        60

aagttaactc cagcaggcgg ttaattgaaa gcgaacggga ggctgatgca tggtaataat       120

cccttaaaac gcgacggcaa cgcgccagta aaccgtgaga tggtcagggg caagccagtc       180

cgggtaaacc agaggcagtc cggcagtgaa cgaaccggaa acatgaccac tggtggtgct       240

gagcccggca gcagcacccc acagcgtgcc ggacgagtac gggtcatctc tgtcagagtg       300

cagccagccg ccgtccagtg cagtcactgc acggactgtc cccacatatg gcagggagaa       360

cagagaccag gacagctcat ttcgcagata accgccgtta ttaccggaga tatactgctc       420

cttaaagcca cgcactgaac tctcaccccc gaggctcagt tgttccacac catgaagacg       480

gtccggtgac cactgggcat aagcgctggt cagccaccac accctgtccg tgacggggcg       540

ctgaaaactg gcactcaccg accatttccg gaactgattt acgggcaggt ctcccctttt       600

cccgtggtcg ctttctgcgc cgaaccaggg catcccccgt gtgaataccg gattcagtgt       660

tccgacacca cccagaaact tgtgtgtgtg attcanc                                697
```

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<210>  58
<211>  4835
<212>  DNA
<213>  Escherichia coli
```

<400> 58

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ttcgactgag caccacaaat actgggtatc tccccagata gttcattgcg gtacaagcaa      60
tataggtgca gaaagtcaac ctgctgcacc ctattggata attatatatg gccttcaata     120
aagtttgcgg ttgtcgacgt tggctatatc agccatttcc aatgcatagt tctttggttt     180
agcaccatca agttatagat ttgggaatag tttcaactgg tattgattga attgggtttc     240
atcgtcgatg attaatacta tttgtaaaga ctttattgtt gatttcttat tataccacaa     300
acccaaactg gtctaggtca tcatttggtg ttgataacgg gctctgataa tttctgctct     360
tctgctatac tggggattat gaagaatatt aaggctgagt gtattgaggt agtgttcttt     420
gaaccgacca ttcatgacaa tatattcttc aattcgtgag tgatccagca actggttgaa     480
tttaaaacac tgagtgatgt tatcctctgt aatcgtatgg ttgctgaact agttgatgta     540
gccgataagg tttataccag atatctttg ggggattag ataacgtagc cgcggatagc     600
aaacgagata gttgaatttt attaccgtaa tttcttccat tgagaaaagc ttattttct     660
tggtggtatt cgcagttatg tatcttccat aaagacttgg gaatatcttg cttgaaargc     720
tatctggaga tagccttagt tatttgataa atatttcaaa taggaggagc cgtatggctg     780
tcatttatac cctcactaaa tcgtcacttg tcaagtctgg tggtcaatta cattggaata     840
ttgattcgcc atcagaacaa cagccacaaa agatcgtcaa tggtcgggtt gcgcttcggg     900
gatggttact ggcagatgtg gaaaaagatc tccgtgttgc ggttaaaatt gaacatttga     960
catacagttt tcccttcaat ataaagcgcc ctgatgttat ttcagctata ctgaaacagc    1020
cacctgaaaa acatcaaaga cttcattgtg gatttgatat caatgtccca tttttctacta    1080
aaataattat tggccttgag tctgatgggt tgattacctg gttggaagag ttattatttc    1140
tcctgcctga taattgaatt aagtatctat accgatagta tcgcgataga tatattttt    1200
tacaggatga taatttgaga atctatatag ccgctattat caaggatgag tattcaagtt    1260
tacttgaatg gattgcctac catcgagtat taggtgttga tgggtttakt attgcagata    1320
atggcagtcg tgawggtagc cgagaattac tattttccct cgctcgccta ggtattgtga    1380
cgatgttcga acaaccgact ttggtgaatc aaaagccaca attacctgca tatgaacata    1440
ttttacgtag ctgtcccaga gacatagacc tgcttgcatt tatagatgct gatgaatttt    1500
tattgccact tgaatcggat accaatttgt cagattttt ttctgaaaag tttcaggatg    1560
agagtgtcag cgctattgca ttgaattggg caaattttgg ttctagtggt gaatggtttg    1620
ctgaagaggg gttggttatt gaacgtttta cctatcgtgc cccgcaatcc tttaacgttc    1680
atcataactt caaaagcgtg gtcaaacccg aacgagttaa ccgctttcat aatccgcatt    1740
atgctgattt gcgttatggt cgatatatcg atgcattggg tcgtgatttg attctgcacc    1800
```

```
cgaggcatgg taatggggtt agtgctgaag tgacttggag cggtgtcagg gtaaatcact    1860

atgcagttaa atcacttgag gaattcttgt tgggcaagca tctgcgtggt agtgctgcca    1920

ctgctaatcg agtaaagcat aaagattatt tcaaggcaca tgatcgtaat gatgaagagt    1980

gccttctcgc tgccgcattc tcagaacaag taaaagctga aatggaacga ttaagtgtga    2040

agttgactga gttaccagca gttgaaccta ttcctactgg ttcttggttc aaaaaaaaaa    2100

tgaagaaatg gatggtttga atatattgag caagcacttt ggtatttatt tctgctctta    2160

tctacaggtc tgctaataag gatctgtatc ccccaggtgt taccttggac tgtaagttat    2220

attatgtgta gctattgcga ttggcagcct ctgacattgc cagactcgtt ttctcttcat    2280

tctggttggc ttctgattcg ggggcgcgtg ttgacgactc aaactcgagg tgaaactcgt    2340

ctgcgctggc aatgcggaca aggaatatgg catgaacaga agttgccggt cactcgtcga    2400

ggcacgttgc tggagctggt ttatctaccy tcgggagcta gtcattkgtc tttgctggca    2460

agtaataagg gcgctgagtg taatgttgaa attactcagc tttgttgtgt atcccgtgcc    2520

gagagtctct ggcgtcgatt gcgccgggtt gtaccttttt accgacgctt aacgaagtcc    2580

agacgcaaaa ggttaggcct ttcatggcat ttgtggctca cggacttgca gcaagcttac    2640

caacttgtca gcagagttcg cgatgataaa ccactcaata gctatgatga gtggctagca    2700

gacttcgaca cccttgaacc cgccgaatac aagctgatta agcgccagct ggctcgctgg    2760

ggcacattac cacgtttctg tttgcatctt gttggcgttg gggatgaaca gagccgccac    2820

aagaccctgg agagtattca ggcactctgt tatccggcaa gcaatataaa cctgcaggag    2880

catggtgcat atccagaaat ctccagtcag tcaagcggcg aatggcagtg ggtgttgcct    2940

gtaggggcag tggtttcgcc aagcgcctta ttttgggttg cccaccagtt acgccagaat    3000

cctgattgtt tatggatata cggtgatcac gatctgcttg acgagagagg tgaacgtcac    3060

tctcccaact tcaaacctga ttggaatgaa acgctgctac agagccaaaa ctatattagt    3120

tggtgtggtt tgtggcgtga acaaggtgct ggccgtgttc cctttgatgc ggcgacatgc    3180

catcagtggt ggctacagtt ggcaaagatg tgtgaaccga aacagatagt ccatattcca    3240

tcattgatga tgcatttgcc tgcaagagcg ttgatttcgg atgattttga gtcgctgaaa    3300

gataaagaag atttactgcc atcaggagtg agcattgagg cagcacctca tggtgtatgt    3360

cgttggcgct ggccgttgcc agcgcaattg ccattggttt cagtgattat ccctactaga    3420

aatggtattg ctcatttacg cccttgtatc gaaagcctga tacaaaagac gcaatatgcc    3480

aatatggaag tcatagtgat ggataatcag agcgatgagg aggagacgct tgcttatctt    3540

gctcatatcg aacaggttta tggcgttagg gtgatttctt atgatcaacc gtttaactat    3600
```

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tcagccatca acaatctggc agtgagaaac gcacatggag atatgatatg tttgctgaat    3660

aatgatactc aggtaatcag tattgactgg ctggatgaaa tggtttctca tttattacgc    3720

cccggcgtgg gtgtggtagg agcaaagctg tattacggaa atggcttgat tcagcatgca    3780

ggcgatgctg tcggccctgg cggttgtgca gatcattttc ataatggttt gtcagctaac    3840

gatcctggat atcagcgtag ggctgttagt gcccaagagc tgtcagctgt gactgcagct    3900

tgtttattga ctcataaaga gttatatctg gcgctcggag gacttgatga aacgaatttg    3960

ccgatagctt ttaatgacgt rgattattgt ctcagagttc gagatgctgg ctggagagta    4020

atctggactc ccttcgctga attgtatcat catgagtcta tttcccgtgg taaagatgta    4080

tcaaaacaac agcagatacg agcgaaatct gagttgcgct atatgaaaaa acgatgggca    4140

tgtgcactta aacacgatcc agcctacaac caaaatttga gttatgaacg tcctgatttc    4200

tctttaagta gagctcctaa tatagtattg ccatggatga attaattcgc aggaaactat    4260

ttaagcctta tcgtaaatta aataaacaga gttatagaag tccgcaaagc tctgagatta    4320

actttgaacg attgtttata ttacatgagg gaaaatcacc tacattagcc tattttgaat    4380

cggctattat aagtcggttt cctgatgcag aatgtcattt tatcgacaca ttagcatcca    4440

ctgatatatt tattcctaga ggatctgccc ttgtcgtcat tagattcatc tccccaaaat    4500

ggcaacagca catagaaaga tataacgaca ggttttctcg aattgtttat tttatggatg    4560

acgacctgtt tgacccgact gcactatcta cgttaccaaa agagtatcgt accaagataa    4620

taaggaggtc ggcggctcag catcgatgga ttacgcaata ttgtgataac atttgggttt    4680

caactgccta tttggctaat aaatatgcac atcttaaccc ggagattgtt tctgctaaac    4740

cgtcactggc actcattgaa acacatcgat cagtaaaaat cgcttatcat ggctcaagtt    4800

ctcatcggga agaaaaatat tggttgagac aaatc    4835
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<210>   59
<211>   1746
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (9)..(9)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (35)..(35)
<223>   n equals a, t, g, or c
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<220>
<221>  misc_feature
<222>  (877)..(877)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (1746)..(1746)
<223>  n equals a, t, g, or c


<400>  59
gaaaaatgnc ataaccgcat tccatcaagc ccgtnaatat cccggacttt catttatttc      60

tgaggcgtac agggaagcaa taactgctgg tcagatattg ctgtctccgg tacatttacc     120

tgacactgta tttttccatc ccagtttacc gacagggttt ccccggcgt cacgccactc     180

agccaggcaa ggccttcgtc ggccaccatg cccagtttcc ggccttttc actggttaca     240

ctggcaccaa acgggggctg agagccatca gcaagacgca gtattgcaaa cagacgtttc     300

cctttaagca cgctgaattt ccggtaacca atggcacctt ctgtcagcgc cgattccaca     360

acagaacggg ttgcttccac atcatccggt aagcgcttca ggtcaacaga ggttgtattc     420

cggtaataac tgctgatgtc agtcaccacg cccgttcccc agcgatttgt caccacctgc     480

ccgccatcaa ccggtacacc tcccacacca tccgtgtcaa caagaagacg tgttccaccg     540

gacattcccc ctgcatgtaa cgccgcacct tttccggtaa ttgttgcccc accggaagca     600

ctgacgccga aagacgtata tcctttctgc agggatgcaa tattcgcgga caaatttgcc     660

agcggactac gatgactgta ataggcatta atctgacgtt gcgatgtcag tccaccgcca     720

ctgttaaggc cggcgttcag gctgtagctg tccagaccgt cattgaacgt gwcagtgtag     780

ccggccatat tcacataacg gtcattactc atactgccac tgtagctcgc tgtccccgtc     840

ccccagcggc acggatatac gcaggtaagc agaatcntta tcacgcccca gatatttaga     900

ccttgaggct gacaatccaa ccgccacacc ctgcagtccg aaaacattaa agtagcggtt     960

gacgctcacc gtataatagt ccgtttccg tatgtcccag tatgtctgac ggctgtactg    1020

caggttaaaa gaggtgttcc agtccgccac gtttttattc agcgtaacgg tatacatctc    1080

tttttcccga ctgctgtaat cattacggta gcgggcgttc aggtactgct ccatggtcat    1140

atagtttcgc tctgagaaac gatacccggc gaacgtaatg tcggcatccg cattatcaaa    1200

ccgtttggag tagctcagac gccaggattt tccctgaaac gttctctctc cctcaatacg    1260

ggctactgac tgcgtgatat cagcggaaag ggtccccggc acacccaggt cccagccggc    1320

accggctgcc agtgcattat aatcaccggc aagcacagcc ccgccataca gcgaccactg    1380
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```
gttactgagc ccccaggatg cctctccggt cgcaaataca ggcccttcgg tctcatgccc      1440

gtatccacgg gaacgaccgg agacaagttt gtaccggacc tgtcccggac gcgtcagata      1500

aggaaccgag gccgtatcga cctgaaagtt ttcttccgtc cgttctgttc aataacctca      1560

acatcaagac gtccgcgaac tgaactgtcc aggtcctgaa tactgaatgg ccctgcgggg      1620

accatcgagt cgtacagcac ccgtccctgc tgcgacacca caacacgggc attagtctcc      1680

gcaatcccgg taatctgcgg tgcataagcc ttcgcattct tggggcggca cattccgggt      1740

cagcgn                                                                 1746
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```
<210>   60
<211>   723
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (473)..(473)
<223>   n equals a, t, g, or c


<220>
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<223>   n equals a, t, g, or c


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acgcccgcta ccgaccgtgc cttccgcctc ttctttagcc gccgtgagcg tgccgctgac       180

ctgcttcagc acatcgacca gatcttcggc tttgctgtat ttgagataga aaacctggct       240

gttgccgctg cgttccattt ctgagtccag ccgacggatc aggcggcgca ttttgtcccg       300

cgtggccggg tcaccactga caatcacact gttggtgcgt cgtcggcgca caatttgaga       360

tttcagcgtc gcaggctggt tctcgccgct gtttttagtc aggctttcca gcacgcgggc       420

gatttccgaa gcagaggcgt tatccagcgg gatcacctct tcagtgcgat tanccgcgtg       480

atccacacgc tggatcactt ccgtcagccg ctccacgacg gaggcgcgcc cggtgagcat       540

aatcacgttg gagggatcgt aattaacaac gttgcctgag cctgcgctgt cgatcatctg       600

gcgcagaatc ggtgccagtt cgcgtaccga aacatnacgt accggcacga ctttggtgac       660

catttcatcg cccgcgtatt gtcgctgcct tcaccaacca gcggcagggc tcgactttcg       720

cgg                                                                      723
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<210> 61
<211> 2556
<212> DNA
<213> Escherichia coli

<400> 61

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atcagcacat agtgcttcag ttcatcatac agcgggcgaa gctgctctcc catgatgtca     180
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caccggctgc aggccagttt tgggcgaacc gtttcgatta ccctgaacgc ggtgttgatg     420
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cccgatggt cagtttatct tcaaatctta aacgcagagc atcaggcaaa taagaacgga    1860

agcagggaat atcttttttt gtctgggaat tcatcgttcg tgtccatcta tatagatggg    1920

cgcgattgtt gccagacagg acaatttttca caagacgtcg cagatggggc gcttaccaga    1980

aatgcgcggg tacgacagtg actcgtcaaa tctcagttgt agcacacgcg ggatcaattc    2040

cggattgtct gccagtaccg cctttcgtgc attcatctta aatgtccctt tactgcaaaa    2100

atggacatta gtatcggaaa caggaaaggg aggcgaaaga cggtttaaat gagacggtta    2160

ccattgtgtc gggctgtgta cgttctcccc ggacagacag cctcagttcg tagaatctat    2220

aaattactgc tactgatgct gccggggaaa ggcgtaacga aaaaacagcc tccgttaccg    2280

gacagcaagg aggctgaatg gagtttacag gatttgcttt tttataatgt ctggccatgc    2340

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tattttgtga cgaatgctgc aaaattgcat ctgcactctg atgtagcttt tatctgtttc    2460

agtgaagcat gcccacaaac tgagttatta agttgtggaa gaacagtttt gtcccgcctg    2520

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<211>   790
<212>   DNA
<213>   Escherichia coli

<220>
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<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
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<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
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<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (765)..(765)
<223>   n equals a, t, g, or c
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gaacagagtg aggaaatatt acgctggtac acagccggct caaaaacagt aaagattgag     180

agcaggttgt atggtgaaga gggaaagaga aaacccgggg agctatctgg ttctatgact     240

atggttctga gtttcccctg aataagatga tggattatct gactggctgt tcatcagtcg     300

gataatgatg aaaactgatg agcaacaggt tgtgcgggca atgtgcagga tccgtcacca     360

aagggtggaa gttgcgggcg actcagataa acgggttaca tgagctattt ctggagtttg     420

acgaagccgt ctggaaggga gaagaggcga ttccattgat gtctctggaa aacatctgtc     480

agtcgtgctg ctggaaatat tgatagagca atgggaatgg ttatccaaca ttgatgaaca     540

tattgtatat ttacagaaat ttttaaaaac aggactcagc aggttaaatc gtgtaaaaat     600

tactcatgaa taccattatg ggcttacaaa gcgatgtggt taagcagatc ttattcaggc     660

ctgtgcagcg taggattaca ataggatcga ataacgccat acaggggaat gggagatagg     720

ctgattcatc ctgtggctat aaccaggagc atatcgggaa tcmantatgt taccccagat     780

ggaacaccat                                                            790
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<210>  63
<211>  10906
<212>  DNA
<213>  Escherichia coli

<220>
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<222>  (856)..(856)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
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<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (6875)..(6875)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (8094)..(8094)
<223>  n equals a, t, g, or c
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<220>
<221>  misc_feature
<222>  (10800)..(10800)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (10849)..(10849)
<223>  n equals a, t, g, or c


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cccagtcatg gcagatgaag aacaggctta cgtaaaaggg ttatatgaag ggattatgct     120

gattggtaat ataatcaata agcctgaaga agctaaagcg ttaatcaagg caactgaaaa     180

tggctgcaga atggtgagta accggctgca acttctaccc gaagagcagc gtgttcgtgc     240

ctatatggcg aatcctgaat tgaccactta tggttccgga aaatatacag gattaatgat     300

gaaacatgct ggcgcagtaa acgtcgccgc ttccaccatt aaaggtttca aacaggtctc     360

gatagagcaa gtcattgaat ggaatcctca ggtaattttt gtgcagaatc gttatcctgc     420

tgtagtgaat gaaatacagt caagcccaca gtggcaggta atagatgctg tcaaaaatca     480

tcgtgtttat ttgatgccag agtatgccaa agcatggggc tatccgatgc ccgaggctat     540

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agactaatgc gagtgcttgc tgcgggcagt ttacgccggg tatggaaatc acttgtgtca     720

gagtatcagg ccgataatat acagtgtgat tttgaccag cgggtatatt aagggagcgt     780

attgaggtgg gtgaggcatg cgattttttt gcatcagcca atatgactca cccacagata     840

ttaatgtccg caggangagc attgtgtatt aaaccttttg ccagaaatcg tttgtgtttg     900

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acattgcgaa tcggaacatc aacggcggga tgtgatccat ctggtgatta cactcaggaa    1020

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cagttctctg gcaatcgccc ggctactcat tccctgcttg tgcaggattt taatttccat   2820

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ttccagcgta cagccaatct ttggggcaat ggaacaaatt gacgcccact acgagtcata   3360

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ttattacctt taactaataa tgccaattca gacccaaaca cggcatcatt cgcttcagcc   3480

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gttgcttgtc gcaggtaata aggtattcgt tcaacaaact cggaacgtga taaaggctga   3600

tgctccagca aaacctcaag cattgcgggc cgcaacaaac gacgctcagc atcaacattg   3660

ggaaacttaa cctcaatggc atatgtggca aaatacttaa gttgctcctt aagccccaaa   3720

ttaggcataa gagaatcaat tgagccagac gccactgcag cgcttgattc aattgtttct   3780

acatactcgt aggaaggtac aacaacatct ggagccaatg ttttaagctc atggagttga   3840

cggataatcg gggatagaac ctcatcagga ttactgaacc aatcagtgga ccaaatacgg   3900

ctaattctcc accccaaacg ctccaaaacc tcttgacgca aacgatcacg ggcagattta   3960

gctgaatgat aagccgcacc atcgcactct atacccatta agtaacaacc cggatcttct   4020
```

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accgacagat caataaagaa tcctgcaacc ccacctgagg ttcacactca aacccagcgt    4080

gattgagtgc ttccattata gcaacctcaa agtcactatc cggagccctg cccgtatacg    4140

tcgtgaggga atctaatttg ccactttcgg caaactgtaa aaaacctttc aacgaaataa    4200

caccaaattt actggtttca ctcgtcaata catcttcaga acgcattgaa ctaaacacat    4260

gcatccgttt ctttgatcga gttaaaagca cattcaagcg gcgccagcma acatcggaat    4320

tgacaggccc aaagcgttaa taaacctttc caccatgctc agaaggtcca caggtaaagg    4380

aaataaagat tacatcacgc tcatcacctt gaacgttctc aagttttttc acaaaaagtg    4440

gctcttccat ggcatataag ccatcaattg catcgttaaa ttcagtgcga tttcggcgca    4500

attcatcaat agcgcgctca atctgatcgc gttgcctgga actcatggcc actaccccaa    4560

gagattcatc cagccggtgt tgcgcatgat gaagtacagc ctcagcaact gcttgggctt    4620

cttcaatatt gtgttgatta gagcaacgac cttttgtatac ataagtaaat ttgattccat    4680

actctggaga ctcagcattt ggagaaggga atatcaccaa atcactgtta taaaaatggc    4740

ggttagagta tgcaattaac ttttcgtgtc gtgaacgata gtgccaatgc aaacgtctca    4800

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aacagaggtg atatgctcac ctcagaacaa cacaggtgct ccaatgaaaa aaaggaattt    4980

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ggctaccgcg ctcttgatgt cagactccct gaacagttct cgataatcgg gaaactcaga    5280

gcgcattatc ctgtggtcac actctgccat gtgttcgggg ttcatcgcag cagctcacaga    5340

tactggaaaa accgtcctga aaaaccagac ggcagacggg ctgtattacg cagtcaggta    5400

cttgagttgc ataacatcag ccatggttct gccggggcaa gaagcatcgc cacaatggca    5460

acccggagag gctaccagat ggggcgctgg cttgccggca ggctcatgaa agaactggga    5520

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gacgtgacgt acatctggac ggggaaacgt tgggcatacc ttgccgttgt tctctgacctg    5700

tttgcaagga aaccggtagg ttgggcaatg tcgttctctc cggacagcag actgaccatc    5760

aaagcgctga aaatggccta ggaaatccgc agtaaaccag ccggggtaat gttccacagc    5820
```

```
gatagtaata atgccggtat cagtttttat catcactctg tttgctgttt aaccagactg    5880

gtgtgattac tgatgcagtg aagaccttcc cgcatcctga ctcacacagc gatcgaccct    5940

ttgtgtcctg ccctggacct gtcggttgcc ggaagcgcct tcatgcgagg cgtctcctca    6000

ccgatgcgcg tgactcaaga agggcctgac ggtttgtctc gttactgtcc tgtccgggtt    6060

atctgtctgg agattcaact ctgtttcctc acaggagctc tgttatggca ggtaaagtta    6120

cggaaaccgc tgttgtgggt ggcgtggata cacataaaga tctgcacgtt gccgctgtcg    6180

tagatcagaa caataaagtt ctggggaccc agtttttctc cacaatacgg caaggttacc    6240

ggcagatgct ggcatggatg acttcgtttg gggcattaaa gcgaattggt gttgagtgta    6300

ctggcaccta tggatcaggt ctgcttcgct atttacagaa tgccgggtta gacgttcttg    6360

aggtgactgc gccagatcgg atggagcgac gcaaacgggg taaaagtgac acgattgatg    6420

ctgaatgtgc cgctcacgcc gcattctccc gaataagaac cgtcacaccc aaaacgcgca    6480

atggcatgat tgagtctctg cgggtattaa aaacttgccg aaaaacagca atatcagccc    6540

gcagagtcgc tctccagatt atccattcca atattatctc tgccccggat gaattacgtg    6600

aacagctcag aaatatgacg cgcatgcagc tcatcaggac tctgggatcc tggcggcctg    6660

atgccagtga ataccgcaat g                                              6681


<210> 66
<211> 1342
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (1238)..(1238)
<223> n equals a, t, g, or c


<400> 66
tattcgcgca tacgcgttgc acatgttctt ttggcgaacg atcatcggca atacagagtt      60

cccaatgggg atagctttga gccaggacag aatccagaca ggcacgcamg tagatctccg     120

ctggattata aacaggaatc acaatagata taactggagg gtgagtcata ctggcaagca     180

tcagactcac cwcttckttg ccaggcaacg aaggtaattc caccgtttct atccattcct     240

cataaccgac agaagacggg gtaacgctga acgtytcgtt atagaatgct tgcaggcgct     300

ctattgacat atcgccattg tscatcaata tggattttwt gatttttct agcggcatgt      360

cacgatagct ttggtgttct ttttgaatgc gagccaatag tgcagactcg actactttca     420

catcaacagc cgctatttca aactgattaa ttgcaaattt tgctgcctgt tctaatggat     480

caaatcgtaa tgcacaagag gcgattccag atagaacaac gactgacgct gaccgctcgt     540
```

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ttatatggca acgttactgt ttcaaactca ttgaacccti tacctgtatc caaatrtaac      600

ttagctaatc cttgctttgg ttgggcaatt aatagagata ttaaattgat accatccctt      660

gctaatattt gagagctgct ccaaatcaat aatgaaaaat ggatcatttc cctctgcaac      720

ccaactttgt gaattatcta tatctatcga gagctgattt gttgccagat agggcagcac      780

aactgtattt tgcattttac tcactgcagg agaaacgtcc catgcttcgc atggtttcct      840

accaagtaac atcccataac gcttaaaatg ttctcttgct gacaacccgg tctgtttcac      900

atccaaatag ttatgcagat accaatgttc atcaaagtga gctagcaact cgtcttggtg      960

attttttaacc atcactttta ttctcccttaa ttgacaggca ggcaactgcg ctgctcaaac     1020

ttcccataca taatgtaatg aagcagcgga ttaatgcctc cttgggccaa atccggatag     1080

gtttgcaaat accagcgagt atcaaactgc tcactagggc tataacctti atccgcccccc     1140

acgctaataa aatgctcaag agctgagagc ccagtgtctg caacctctgg gtagcgatgt     1200

tgataccaga gttcatcaaa caatcctgaa gcggcaanta ctccgcggca ctctctgtag     1260

ctgttgttct ggatggagtc tcctccttaa atgttctgcc aagagcacga actggggctg     1320

taatcttcca agagacggtt ct                                              1342
```

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<210>  67
<211>  1580
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (14)..(14)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (18)..(18)
<223>  n equals a, t, g, or c


<400>  67
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gtacatgaat cctccggcga acagagcggt gaactggaaa ccatgcttga acaggccgcg      120

gtcaatcagg aacgggaatt tgatacccag gtggggctgg cgttagggct gtttgagccg      180

gcgctggtgg tgatgatggc gggcgtggtg ctgtttatcg tcatcgccat cctcgagccg      240

atgctgcaac tgaacaatat ggttggaatg taatttacgg agttatcaca tgaattcgtt      300

atcccgcaca caaaaaccac gggcaggttt taccctgctg gaagtgatgg tggtgattgt      360
```

```
tattcttggc gtcctggcaa gtctggtggt gcctaacctg ttgggcaaca aagagaaarc     420

cgatcggcaa aaagccatca gcgatatcgt ggcgctggag aatgcgctgg atatgtaccg     480

actggataac gggcgttatc cgaccactga gcaggggctt gaggcgctga tccagcaacc     540

ggccaatatg gcggattccc gtaactaccg taccggtgga tacattaaac gactgccaaa     600

ggatccgtgg ggcaatgatt atcagtatct cagccccggt gaaaaagggc tgtttgatgt     660

ttataccctg ggggcagatg gtcaggaaaa tggggagggc gctggcgcag atatcggtaa     720

ctggaatttg caggagtttc agtaatcagt gcctgaacgc ggattcacac ttctggaaat     780

catgctggtg attttcctta tcggccttgc cagtgcgggc gtgatacaga cgtttgcgac     840

cgcttcagag ccgcctgcga aaaaagcggc gcaggatttt ctgactcgct ttgcgcagtt     900

taaggacagg gcagtgatcg aagggcaaac actcggtgtg ctaatcgacc cgcctggcta     960

tcagtttatg cagcgtcgtc acgacagtg gctacccgtt tctgcgaccc gcttatcgac    1020

acaggttacg gtgccaaaac aggtgcagat gctgttacaa cccggcagtg atatctggca    1080

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ttacagattg ccagcggcgc gctgagtaat cagcacgttc ttgaggaaaa aacggtagcg    1440

ggctgggtag ctgaaaacca gaccgcactg ctctacctga tgacccgcga caacgggcg    1500

gtcaggcacc agggcgagag cgatatggca ggaagccgct ggktctggcg aaccacacca    1560

ctgaataccg gtaatgcgct                                                1580
```

<210> 68
<211> 3241
<212> DNA
<213> Escherichia coli

<400> 68
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cttaaccatt acccagcatt tggtagttaa atagtcgtta aaagcataaa acatggacat      60

tgtgccatcc cagctaaagc atccattacc gcctgacagg gataaaaata aaaaagcagg     120

gaaccatttt ttcatcagaa atcacttccg taattacagt tattcattta ggtatgactc     180

agttataaat catgctcata ctggccgtgg tctggraatc cccgccattc agtatcccgc     240

tgccattacg aaagggcact gaagtaaagg tgaacgttga acgtgctgtg tccagacctg     300

ctgtcactcc gtaaccattt cctgaaccat tacctaatat aagaggtgtt gacattcctt     360
```

```
ttccctgata cagcgctata ccaaaatgag ttatatttgt tgccagtaca ttattctgac    420

ctcctcccat agtatttccc gtaactttta tccagagaga gccactctta tacggacagg    480

atatgcttat ggttttgtg acttcaccac gtgagttgtc cacgtgctca ggattaatat    540

tcccaaaatc aacaacaata ttctgcccgt tattaatggt gcatgggggg atataaacat    600

tcccctgat gttaatctgc acatcagcca gtacagcgac cgatgtcaga agcaacgata    660

taaataatga taaacgaatc attcccctcc ggagagcggt acagaaaaca ttttatttta    720

cgagatataa aattaacgta ttttagttga tactattacg aatatgatgc aaccagcgtt    780

gctgttgcag agaaaggacc ggctatcaaa ttctgcatat tccctttata tccaagtttg    840

gcatgaagtg atatagtttt atctgcatta ttacctgtga ttttccggg cgtaaatgga    900

gtccctaaag ttatcgcagt cccaatattt cctgcattac tgttataaag ataaacgagt    960

aacccatcag aagatgtgtt tgatgtattc tgaactaaaa tagcattgtt ataagtgttt   1020

gttgccgtta tcgtaacctt cattgttccc agattatagg gacaccgcat attcacagta   1080

aactctttt cgtgatttcc attttgactc agggtctgaa tctctacatc ctgccagtca   1140

acagttgtgt tgcttacagt acaggcagga ataatcagtt ttcctctgaa ggtcagatta   1200

tcaactgcat gtacatgctg agacattaac actgcccca gcattaccgg aagacacaaa   1260

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ctggcctttg ttatgggagg tgccgggttt cagcagactg ctgccatcgt tgtccagcag   1500

tgcaatgcct aaccggccag cattcactcc ggttaccttc agatggcccg ggagggcgcc   1560

tcttccgtcc ccttaaaggt cagggtcaca attttgccaa ctgctgttgc atggcagttt   1620

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gcggcaaaca gtaaaagagc gcctgtgctt tttatcatca cattccctta ctcatatttt   1860

atgctcagac gcagcatggc cggattgctc ctggcatcag aatactcacc ctcctgtgtc   1920

gcccttttcc tccaggcggc cagcatctcc tcctgccgcc ggtcaggccg gcacagtaaa   1980

aaggtatcac catcgtgtat aacaagatgg tcacagccgg atagcttacg gtcaggaagt   2040

aaagcacttc cgcttccggg accggttacc agtgagccgg agactgtcat cgcaacgccc   2100

cgttttccgg gctgaagtgc accaccgtcc ccacatcctg ccagcctcag catcagaggt   2160
```

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gctccggctg ccgcagagtg attttccggc cggaggytta acggcacctc attactcacc    2220

agcgtgcagg gtgaggacag cagtgcacca ctgacggtca ggcttccggt gcgtcccccc    2280

cgttcattta tccggtaatg acgcaactca tctgcagtaa agacgtcatc gtatataccc    2340

cgctcttcag cccgcaggaa agtatggatg aaaccactca gcgacagtgc aataagatac    2400

agtactgctg ttgtttattt cacaaccata atatcccacc cgcatttaac cgttattgcg    2460

gtacattatt tctctttttt cacagagcaa cggctaccat tacagataaa cgacagtacc    2520

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tcctgaggaa gtttactgat atccggtgtg gtactcagcc tgaccatgct tttcgcaccc    2940

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tcaagcgtca ttgacttctc actcccgtca aacaccgcgc gggttctgtc cagcgaaaca    3120

gcagcgtctg ccccggatat aacaaacagg gggatggcag ccatcagaat ctttttttcga   3180

atcatactta atttccacat tctgtaattt cacctggtcc ggaaaatggc ataaccgcat    3240

t                                                                    3241
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<210> 69
<211> 398
<212> DNA
<213> Escherichia coli

<400> 69
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acgcggcagt ttgcccggtt tacggaccgg tacaaagcca acgcccagac ccagagctac    120

cggagcgcca aacaagaagc cacgcgcttc ggtgccgaca actttggtaa tgcccgcatt    180

tttgtaacgc tcaaccagca agtcgatgct gagagcgtaa ttttcgggtc ttccagtaag    240

ctggtgacat cgcggaaaaa aatgccgggt tttgggtagt cctgaatgct tttgatgcta    300

tttttgagat actcaagctg ctgtgcatcg cgggkcataa gtgtatgcct gcttgttacg    360

gtggtactca cggcgcgttt ttaaacgtat caaaagtt                           398
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<210>  70
<211>  17710
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (6)..(6)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (8)..(8)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (4490)..(4490)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (4661)..(4661)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (7318)..(7318)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (11186)..(11186)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (17685)..(17685)
<223>  n equals a, t, g, or c


<400>  70
cagttncngt tctcatagac agattgataa aatcgtaaac agcccctagc attcccgttt     60

cctttgcaca catattcagg cacggggata aagtataaag aatgtcgtac tgctgctacc    120

agagcaatat tcccccctga tggccgtatc agagatagta tgccggtatt ttgcgggtgg    180

ttcccgtcag gttatcgtgt acctccacgg tcgtagtcac caccggcatt ccggcytttc    240

tcagcctcaa aacatcagct gcaatacgct gactgccgaa ccagaacagg ccgtccagtg    300

cagtcaccag caacccccgcc tccagcgcat gcttcagccg ttcacggggc gctttcactt    360
```

```
cccgggcaat ctgctggtat ggcgatgatg tgttttcatt cccaatcacc cggcgaatac    420

gatgagacag atgataccgg tatgtatccg gcacaccgga aaggctggcc ttcaggctgt    480

acacgcagcc aaatcgttta tcattgaaca ccacattttt ctggctgatg cccattctt    540

cacgcagcgc ggcaatcagt tgtggtgtac gggtaagcaa caagcgaaaa ggcagttcaa    600

aactggtgac ataatccaca ttcaacaggg caatgcgaag tcgttcttct ggtccggctt    660

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gtcgatattt ctcccgacaa tcaccggatg attgttgcaa tacctcgtgg catcagagac    900

tgaacagcag tttttaacgc aacgtattgc tctgatgtat caggccggac aacccgaaaa    960

cagccttcca cccggcattg tccgccagcg cttatcaccg gccaggtctg ttgcagtaaa    1020

tccgccactt gcgaacatgc ttcatcaact gtgacactgg cccgcggatg gcaaatgctc    1080

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acagctgtga ctggcaatat gaaaggaatg atgaatcagt caggatgaca aagtgccggc    1500

tgaccggagg ggacgcagga agattcacgg ggggaccagc accagggaac agcgccacaa    1560

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<213>  Escherichia coli

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<211> 1283
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (1)..(1)
<223> n equals a, t, g, or c

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<222>  (19)..(19)
<223>  n equals a, t, g, or c


<220>
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<222>  (101)..(101)
<223>  n equals a, t, g, or c


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agtttgaggc gttatatcag gggcatatta ttcttattgc ttcccgttct tctgttaccg       240

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gcgcgtgctt cttctttcgc atctaaaacg tacgtagtga gtaactgctc aagcttactc     180

ggacggcggc tatcaaaata gattccaacg gggtcaatcg agagtgatga aggtcgacat     240

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agttcaggat aacggtttcc ccacaccaac acctgttcat catctttaa ctgtgagggc      360

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cgcttccaca gagaaaaacc aacgagataa agacgacgcc aaggtttggg ctctacctgc     480

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gttgcgtata ctgtggaaca tacatgccac cagtaaccgg aaccccgtg ccaggacgat    6480

attccagaca gttgacctcg tagtggtaag ttgggtcctt acactccttt aatccaggaa    6540

acttctcaaa gattttttgcc ttcgcagcct tcagagaatc ctctgtttta tgatcggcct    6600

catcaataaa ggcataacgc gtttcctgtt tgccatctac atcttccagc cagctggcaa    6660

cttccagctt cggtttgtca tcaggtttgt tttctacctg atatttccac ttaacttccc    6720

ctgtcttact atcgatggtg tacggcagcg caccatctac ggcaggataa cgttcataga    6780

cccaaatgcc cgttgcgcgc tgctgacgag cgcggttcgg atacccttgc ggatcc       6836
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<210>  74
<211>  1332
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (9)..(9)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (44)..(44)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (343)..(343)
<223>  n equals a, t, g, or c


<400>  74
ggaaaaacnc gccgtatatt agcccgcgcg gaaaaagccc cgtnacgggc aaacgcagca        60

aggtttttatc ccagcgcagg cgcatggcag gattttttgag tagccgttgc cccagcacca      120

gaagccccag caatcccgcc agccagtaaa cgccgctggt ctgtaacgtg tcgctcatgg       180

cgatgagcgt gcgggtggag gcgggcagcg cgtgtccgag atgatcaaac tgttcgatga       240

tttttggcac cactgccgtc agcaaaatag tgaccacgcc cgttgccacc accagcagta       300

ccagcgggta gagcatggcc tgcagcaggc gtgaattttcc agnacctgcc gctgttacgg      360

tgtaacccgc caggcgattg agcaccacgt cgagatgtcc ggatttttct ccggcagcaa       420

ccatcgaaca aaacagggaa tcaaagacgc ggggatgttc gcgcaggctg tccgacaggk       480

tgtaacyttc ctgaatccgc tgcgcagcgc cattccgagg ctttttacat gcagttttc       540

actttgctca ctgaccgcct gtaagcaggt ttccagcggc attgctgcct gtaccagcgt      600

tgccagttgg cgcgtgaaca gcgcaagatc tgccgccgcc acgcgacgat gtgcgtgccg      660

ccgacgctgc aacatccccc ctgacgaagt attcatccgg gcttcaatat gcacggggat      720

aagctcttta ccgcgcaaca actggcgggc atgacgcgcg gaatccgcct caatcatacc      780

tttggtttttg cgaccattac gctccagcgc ctgatagtaa aacagtgcca ttacgcctcc      840

atggttaccc gcagaacttc atcgagagag gtttctccgg cgagcacttt ctcaatgccg      900

ttgctgcgga tacccgcaga gtgttgtcgg acataacgtt ccagctccag ctcccggcc       960

tgacggtgga tcaaatcacg caatgtggca tccaccacga tcagctcatg gatggcagtc     1020

cgtccgcgaa aaccttttgtg attacaggcg ggacagccct gtggatggta cagagtgacg     1080
```

```
gtacgggcgt cggtaattcc cagcaggcgt ttttcttcgt cggtggcagg cgcggcctga      1140

cggcagtcgg agcacagcgt gcggaccagt cgctgcgcca tcacgcccgt cagactggaa      1200

gagagcagga aaggctccac gcccatatcc tgcaaacgtg tgatcgcccc caccgctgtg      1260

ttggtatgca gcgtggaaag taccaggtgt ccggtcagtg aagcctgaac agcgatttct      1320

gcggtttcgg ta                                                         1332
```

<210> 75
<211> 4407
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (2638)..(2638)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (3425)..(3425)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (4227)..(4227)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (4256)..(4256)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (4300)..(4300)
<223> n equals a, t, g, or c

<400> 75
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cccaacgttt atcgtatttc attaaagtcc cttgcccgat gctatctcga gttacatgac        60

gaaatcgctg atttggatgt catgattgcg gcaattgtcg atgarctggc gcctgaactg       120

attaaacgta atgctattgg atacgaaagc sttcgcagtt gctgatcacg gcaggagaca       180

atccccaacg attaagatca gaatcaggtt ttgcggcact gtgtggtgtc agccctgttc       240

ccgtatcttc aggaaaaacg aatcgttatc gacttaaccg gggtggagat cgtgctgcaa       300

atagtgcact tcacatcatt gccatcggac gtttgcgaac tgacgataaa acgaaggaat       360
```

```
atgtcgccag acgagtagcg gaagggcata caaaaatgga agcaatacgc tgcctgaagc    420

gctatatctc acgcgaagtt tatacattac tgcgtaatca aaacaggcag ctcaacagca    480

tcccgataac ggcttgactc ttagaagggc gtccagggca gccactatac aagcaggcag    540

ttccggcagt tactgtggcg ttaccagatc aaacagagtc tgagtcgacg aggaaattgc    600

tgggataaca gcccgatgga gcgcttcttc aggagtctga aaaacgagtg gataccggtg    660

acgggttaca tgaacttcag cgatgctgcc catgaaataa cggactatat cgttgggtat    720

tacaacgcgc tcaggccgca cgaatataac ggtgggttgc caccaaatga atcggaaaac    780

cgatactgga aaaactctaa agcggtggcc agtttttgtt gaccactaca tttagtgcga    840

cacgggaagc gcgatatgaa cgatacgata catcaatggt ttattgcggt gataacctga    900

agggtgagat tgaggctatt tataatagtc ttgagaggcg tcaggtttag agcaggaatg    960

ctgagtagcc atcttatcga ttgtttttcga gcgtaagatg gctgaatgga atggctatta   1020

ttgcacagtc cttaattata acattcatac cgacatgatt atcttctgtc cggaagaatc   1080

agaggctgcg gtttcagact gtctgccggt acattcctct ctccgttaaa aaccataacg   1140

ggttcattat cttcgtctgt cagcagattg aatggcggta tattttcagt acgaatgccg   1200

gtcagccact gaaaaatacc tgcgaaatga cgggcactga tttttctgct gacggactga   1260

tgagacgtga tgtcactggc ggtaataatc aggggaacgc tgtagcctcc ctgcacatga   1320

ccatcatgat gaacaggatt agcactgtcg ctgaccgaca gaccatggtc agaaaagtaa   1380

agcatggcaa aatgacggga atgccggcga aggataccat caagctgccc gagaaagtta   1440

tcccagttta ctgatgctgg cgaggtaaca ggcaattttt cggggatact gccccaggta   1500

atgattcggc caggagttaa gccggtcaca cgggttcgga tgagacccca tcatgtgcag   1560

gaatatcact tcggagagga tttatccgcc agtgcacgtt ctgtttcctg taacaacaac   1620

atgtcatccg ttttacggga agcaaagctc cctttcttga ggaaaacggt atgctccgca   1680

tcagaagcaa taacagagat gcgtgtatca tgctccccca gctttccctg attggatatc   1740

caccatgtgc tgtatcctgc ttttgctgcc agcgccacca cgttgttgcc ggagtcaggg   1800

ttctgctcat agtcataaat cagtgtccgg ctcaggaag gtacggtact ggctgctgcc    1860

gatgtatagc cgtcaataaa taaaccggga gcagtattca gccacggtgt ggttggcacg   1920

ggatagccat ataccgacat ataatccctg cgcacactct caccagtgac gataacaatc   1980

gtgtcataca acggtacacc cggcaggatt ttccagttgt cagccccgtg ctgattcagt   2040

tgtttataac gctgcatttc acgcaatgtg tcagttgtcc ccacaacagt tcctttaacc   2100

atccgcaacg gccagctgtt tactgagcat aatacgaaca gcagcagtgc cagccagtta   2160
```

```
cggtgaccgc ggtggtgtgt tcgccagaaa atcaccatga ataccagaat cgcggcactg   2220

accagaaaat gataaacagg aatcatcccg gtaaactccg ctgcctcatc agttgtggtc   2280

tgcagcaacg caacaataaa actgttgttg attttaccgt acgtcatacc ggcaggcgca   2340

tacagtgcac aacagaacag aaataacagc gctgtaatgg atgtgagggt atttctgtgt   2400

gcaagaagca gaagaaagaa cagcagcaac acattcccgg tggtattctt ctcagtgtat   2460

ccgcatgcaa ttgtggttat gacagaaaca acaaaaaaga ataaaaacaa tataatcctg   2520

agagtgttgc ccggacaaaa cagttttctg atattcatcg gagtatatcg acaacattat   2580

tatgaagaga acaggataat aaaaatcaga agttatctgt gaaacagata acagacancc   2640

ctgcagtata atattactgc agggtgttcc tttttaatta cagaaatacg taattatctt   2700

aattgcagaa atatgcgcaa ttatcgttca gaagcagtgt cgtcagaagt tataagtcac   2760

accaagcagg atgtcatgac ttttaacatc aacctctgat ttatatttat ccccttctgt   2820

atccttgtaa tacagggagg atttaccagc atccagatag cgatagctga ggtcaagagc   2880

gatatccggg gttacgtcat agcgaacacc ggccccaatg ctccatgcga agttgtcagc   2940

agagcctgag cgtgatatag aataacgcac tcgctcaccg tagccataat cccaactacc   3000

gctacctgtt gattcctgat gaattctggc gtaaccaatt ccggcagaca cccatggcgt   3060

aaatgcactg tcgtttctga aatcatagta cgcattcagc atcaggctgt tgactgacac   3120

ctcattcttc aggtcactat gtcccgcgtg gtccttatag aggttgtatg ttgtgtcagc   3180

ttttccacgg gcgtaaaact ccagttctgt acgcacagga atactgaact gcggatgcaa   3240

gtcataacca aacgctatac ctccactgaa taccgtgtta tggccatccc cccctatac   3300

tttgatgttt cctctttatt ttcggacagg aaactctggt cagaaagaga tactgctgaa   3360

gtacctgctt taccggtcag ataaaaaccg cttttacctt cctcagcacc cgcatttgct   3420

gcaancatac aggcagcggt aactgctgaa acagcaaaaa ctttttttcat ttcaattaac   3480

tccattattt cactattttt gtaaatagca ctcctaatat tttaaaacca gtcaaaagat   3540

agtatcaagc aaattattca tgtctaatga acagataaaa tcgactatgt gtcggcaaga   3600

ctctgctcca ccgatattcc tcttatttcc gcctcgatga aataccccg ttaccttatt   3660

tgtacccctt ataatgggat gttggccagc cagacccggc atgattagtt ctccctgtcg   3720

actatgctcc gggagggatg tcaccgggtc tggtgaggcg cggataaccg ctaatagggg   3780

aaggtcaggt attttacacc gggaccgtca gggcaagata acgaaagcca gctccccgca   3840

tgaactgacg ccagatagtt tctgtccatt gctgcttttc tcatcttacg tcttaacct   3900

gccttgaata ccttatctct cgtcaaaata ttaatagcga tatgccgtat ccctgaaaat   3960
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aatcccgctg cgtttcctct tcttacttgc agtcgtcttc attcattacc acgtccagac    4020

gccatgcagc ttattctcca cgtgccagtg atttcggatc gctgtgacga acttctctgc    4080

ggttaaatca gcagaactga tataatatct gaccattatt tctgactctt gcttttgttc    4140

tgctattatt gaccgaaagg agactgccag gcatattttt tcagcccctt ccattcaaac    4200

gtgaattcaa tcagctcatc agggacntcg ccaaaccata tgaagacggg atcctnctct    4260

gccgtgactc ttgtcactaa ttgcgtaaca gtcatgctcn gggataatta aatctttcag    4320

cggaaataaa aagattatca gatatgggga tgacaccaca gcaccgctga ggccagtatg    4380

gataaaccat gtaccttatt aaccaaa                                         4407
```

```
tttttttgcaa gagaatttcc ctgaacctga agctcatcat cgccatctcc gccgttcagg      60

taattattac ctgctccccc aattaactta tcgttgccat caccgccata gagctggtca     120

tctccgtttc caccactcag tgtgtcatta ccttttatcac catataagcg gtcattcccg     180

tcatttcctt ctatatggtc atcaccatcc gcgccatgga agatatcagc aaatttactg     240

ccaaaaaact tgtcggcacg cgtgtgtccca ataagttctt ccacggaata taagttatca     300

gtctctgtta aattttttacc attgatatga gtgaattcat aactccgata ttgcgttttt     360

tcagttcttt ttccaactga aacctcctgc tccttcacaa cttcctgtaa aaccttaaca     420

tcaccaccaa gtacacgtgt taccgtgtaa ttacccgctt cggttgcttt tgtgccatca     480

atggtcagat aaccggtgtc tgttttatca taataaacaa catcatgtcc tttacctgcg     540

tagatattgg ctgagccggc agataaaaag accttatcat ccccgtctcc caggtgtgac     600

tcaatacgaa tttcccgata ctggttatta ccgactgatg catgctgaat caggttagag     660

taatcatata cagaccccctt gtcctgnaac ccccttcacc gtccattat caacaccctt      720

gactaataac tcggtaatat attcatattt tccggactgc ctcctttcac gaatttcctc     780
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accgggagtt taacaatggg cgtaacnaat ttgcaataac gtgg                          824


<210>  77
<211>  550
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (2)..(2)
<223>  n equals a, t, g, or c


<400>  77
gnggccgcag tactggatca tcaccgaagt ttcgcgcgga aaagcgttag agaaagatct    60

aatgcttcat gatggtgatg gacttttcct gatggtgaaa tccagcggga aatgctctgg   120

cgtttccgtt atcaacattc gacaacaaag cagcggacaa tgatgggact cggtgtcttt   180

tccacacttt cacttgctga tacccgaggg ctaagagtgg attatatttc cttattagcc   240

aacagaatcg acccgcaaat tcaagctaaa gccgtagacg aagagcaata tttgaaaagg   300

tgggcaccta cgttaccaat actggcttaa tggctacata cggcggtcag ggtcagttta   360

cgcttacaaa atataaaaca atttgataca aaatattcct cttattctaa ataaaagtat   420

cttgaaaacc ttccaactgg aaggtagatt gaatttatgc taaacataaa gaggaattgc   480

ttatgaatta cgttatccgc actaccaccg tcgtctttag tctcatgctg ggcaggttac   540

gcaactgctg                                                          550


<210>  78
<211>  382
<212>  DNA
<213>  Escherichia coli

<400>  78
cactaaaggc cctggatgtt tttcgctcat tagtagacat ctcgctgata acggcgctct    60

acgcgcactc acttaaaaat tcatccgccg cttcggtgtc catgccacca aattcggcaa   120

tcacttccag aagtgcctgc tcaacgtctt tcgccatgcg attagcgtcg ccgcagacat   180

aaatgtgggc accatcattg atccagcgcg cacagtccgc gccctgttcg cgcagtttgt   240

cttgtacgta aactttttct ttttgatcgc gcgaccaggc aagatcgata cgtgtcagca   300

cgccatcttt gacgtagcgc tgccamtcca mctggtacag gaagtcttcc gtaaagtgcg   360

gattaccaaa gaacagccag tt                                             382


<210>  79
<211>  3576
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<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (1528)..(1528)
<223>   n equals a, t, g, or c


<220>
<221>   misc_feature
<222>   (2618)..(2618)
<223>   n equals a, t, g, or c


<400>   79
taaatcagca gaactgatat aatatctgac cattatttct gactcttgct tttgttctgc    60

tattattgac cgaaaggaga ctgccaggca tattttttca gccctttcca ttcaaacgtg   120

aattcaatca gctcatcagg aacatcgcaa acaatatgaa gacggatttc ttctctgccg   180

tgactcttgt cactaattgc gtaacagtca tgctctggat tatttaattc tttcagcgaa   240

aataaaagat tatcagatat gggatgacac acagcaccgc tgagcaagta tgtataacca   300

tgtacttata acaaaggag acgtaagaag gggaacgggt atcagagggc caatcaaagc     360

aggtataatg aacgccagta taattgtccg caacccagaa atatattatt gaactggtta   420

tctcctgcga atgcatatac tgcaacggcc gttaaaatag cattatatcc ataaagcccg    480

gcagagattt tatcaggaga aagctcagga atacagaatg ataccaccac actcagaaac   540

gaagcgacaa ccgtaatcat cagtagtttc cggctccctg caagtagtcc cagcataaca   600

agaataccgc cgacagcatc aggaaacata aaaatctcca taaagctacc agacaatgcc   660

accggatagt ttttcagcaa aacagaacct gcacttcgcc cgaaggtact gacatatcat   720

gaggcattat tccggaatgt aataaccacg tagcgataat aaaggggggcg gtcaatacgg   780

gtaaccctct gagcactgac gacaacaggg gagtaaacaa aacaatacca agagttccga   840

cgataagtac agcaattccg gagactgaca cagggacaag catgccacag gctatgccat    900

acagaacagc attatatccc catatacctt cattaatctc ctcatcagga taccgcaaac   960

accaggcaaa gaacggagaa agtgctgcac tgatggctga gaaatacagt atttcggggt  1020

gccccatatt aaaagaggct attccagtcg ccaaaaaaaa gaacaagcca gaaacaacat  1080

tgttctgtaa taatacctgt gaatacccct tactaaaggc ggttatcacc tgttttactc  1140

tcatgtaaaa tgtcacacac acctcataca taaaccattc tccgcttctg cgggacagta  1200

ccgccctga ctccacctca cagcggattg tgtattttta aacaatcaca gtcttctcat    1260

atactttcca ttctgaagct tatctcttcc tccgtgataa gcttccgtcg cgggatgtgt  1320
```

```
tatacgccct gtaagacagt tataaaggac atcaatgcca tagttaatga ytaccgaatt   1380

ccggtggata gtcagtactg gtttgccaca aaacagtgca gtcacacatg acaggagaag   1440

atatgagccg gataccgctg ctctgagact taacgctcat gtaaactttc tgttacagat   1500

tcttccaggg actaagaaga taactgantt acgttcgcat tccagtsttt atttctgcag   1560

tgacagccat acccgagctt aatggaatgt gcttattccc ggttgacaaa tcattctctt   1620

caacagaaac aatgacatta aaaacgagtc ccagtttctg gtcttctatt gcatctaaat   1680

ttatatttt taccttaccc accagataac catatcgggt gtaaggaaaa gcctccactt   1740

taatgatggc attctgcccg acgttaataa aaccaatatc tttattttgt accagagcag   1800

taacctccag cgtgtcatct tccggaacga tgaccatcag tgtttccgct gttgtaacaa   1860

ccccaccttc agtatgaacc ttcagttgct gaactttttcc cgaaacaggg gccctgatta   1920

ctgaagcctg ttgacgctct tcatttttct ctaactccag agttaataac tcaatgctgt   1980

ctgttgtttg tcttagcttg tctaaaattt cattttttaaa aagctgcgtg acaagctgat   2040

attcttcttt tgcagacaat atctcactct caatttgctc cagttgcgat ttataaaccc   2100

gtaattcatt tgctgcctca acatatttat tctcctgctc aagtacagca tgtttttgcaa   2160

ttgcctgttt atgcaacagg ctcctgaaat catccagacg gcttttttca accctcgata   2220

cattttcata acggtttata cgggcaagta ttgttaawcg ctctgctctt ttcttatcca   2280

gattcagttc tttttgatac ttctgatttt gccatgtgga aaactgttct tttatcaaag   2340

aagttaaacg cagtacttcc tcttcagata cattctgaaa ataaggctca tcaggaagtt   2400

tcagttcagg aagtttattt aattcaattg accggctcag aatttgatac cgaatttgtt   2460

ccagcctggc ctgtaacagt gatgactgcg tttttaacgt atcagcttca gctcccagcg   2520

ctgtaagctt taataacaca tcccctttcc ggactgactc tccttctttt acgayaattt   2580

ctttaactat cgagttttca ataggtttaa tttctttnta cgcccactga gtgttaattt   2640

cccatttgca gtggcaacaa tttccacctg gcctaaaaca gataaaatga aagcaataac   2700

cagaaacccc ataataaaat aagcaaccag acgcggccgt ctggataccg gcgtttcaat   2760

taattccaga tgagcgggta agaattcatt ttcgtccttt tcacgtaccg gagtatctaa   2820

ctgcttccgg attttccatg tttcactcca gacaagttta tagcgcaaca ggaactcgct   2880

gaaccccatt aaccatgttt tcatattctt ctgttctttc tgttagtctg actgtaactg   2940

atataagtaa ctgtataaac tttccggttc agaaagcagc tccttatgtt taccctgttc   3000

aacaattttc ccttttttcca tgacaataat gcggtctgca tttttttactg tagacagacg   3060

atgagcaatg attataaccg ttctgccctt acatattttg tgcatattgc gcatgatgac   3120
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```
atgctccgac tcataatcca gagcactggt tgcttcatca aagatgagta ttttagggtt    3180

gttcaccagc gcccttgcaa ttgcgatgcg ttgacgttga cctccggata atcctgcccc    3240

ctgttccccg acaatggtgt tataccctc acgcaattca gaaataaaat catgagcacc     3300

tgstaatttc gctgcataaa taacttttc gacggacatg ccaggattag ccagtgaaat     3360

attatcaata atactgcgat taagcagcac attgtcctgc aacacaaccc ccacctgacg    3420

acgtaaccag ttaggatcgg ccaacgcaag atcatgtcca tcaattaaga cctggccatt    3480

ttcaggaata taaaaacgtt gaattaattt agttaatgtg cttttttcctg aaccagaacg   3540

tccgacaata ccaataacct cccctgctt aatact                               3576
```

<210> 80
<211> 3541
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (1758)..(1758)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (2529)..(2529)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (3392)..(3392)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (3425)..(3425)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (3452)..(3452)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (3471)..(3471)
<223> n equals a, t, g, or c

<400> 80
tcagcccggt gagcgggttt gacaattccg cactcaccat tgggctaagg gttatcaggt   60

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ggggttaagg aaatggcaaa acctaccccc gtccaaactc cagtcgctgc acattcacca    120

tccctggctt ctcacctgcg ctgacatcaa tttgtgtcac ccgcagcgca tattttcat    180

ccagtgcttt taaccagttc agcaggtcat taaacaccac aggttctatc cagacctgga    240

tattctcccc gcgctcggca atccgtttga tgaccaccga gtgcgcggaa gctgtcactg    300

atgacccgcg atacctgtgc tggcgttgtc gtgccggatt ttcgcgccgc aataatatcc    360

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tggcagttga acagatttc acatcagcaa cagattagcg aacgggactt ggcattagcc   60

gagcgtttta gtgaangttt agctctaaca cgtctattag aagagcgcac gcagnattat   120

cactgaacta gagattgaaa aacaattgct taccaccaag ttgtctggcg tagagcagca   180

gttaagggct gagcaagagt cgcttcagca ggcccagtct gcattgctct cagcagcaaa   240

agaaaagcaa catcaacttg atgagttgga atcggtgctc aatgagcggt acagtgagat   300

tgcaacctta acccgttggc tggaagaacg tgatcaggca ctccttagtg cagcaagtga   360

acaacaacag accaatgana ccatatagag ctcagccag   399

<210> 89
<211> 1013
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (943)..(943)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (974)..(974)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (1013)..(1013)
<223> n equals a, t, g, or c

<400> 89
atactctgct tgttgagcag ccattacgtc gctttgtgac gcaatattag actcgtgcac   60

tgctattagt tgagtcagtt catcacattg tttagaagcc gcagccaaag caagagtttg   120

ctcatctatg ctttgctgca atgtttgttg cacaagttgc ccttcttcca gctgttgctg   180

tagatttgca cttacctttt tcagtgcatc atattccaag cctaacgtat cgtgctgtgc   240

ttccagtaat ccataagcat gctgcaactg gttttttagtt tgctgctcac cgtcaagctg   300

ttgctgcaat gcattagcct gctgttgcaa caagttcacc atattgtctc gctcggccag   360

tgtacgaacc tgtgtatcct ggatatgtag cgcttgttcc aactgaagct gtaattcggt   420

aatttgccgc gaatgttcgc tcaatgctct gttgctcttg ctgagcgcga gagtaaggtg   480

agatgcacgc tgtgtttctt cactcaattg taacgtcagg gtattgacct gttgctccag   540

```
ttgatggcga gcttgctcct ggctcgtgat gcgactctgt tgctgctcta gttgatgcag    600

agctgtatgc aactcatcgt tggcttgtat tcgctcctgc gaccatacac tcaagtttgt    660

ttgggcctca ttgagctgtt cttgcaataa tgccacctca gatgtcagcg aattgatatg    720

ttgctgggca aaagatagct catcagattg cacttgagca tgtgcaagct gcttttccat    780

ttctaatatg ctgttatgtt gtgcagtaat gcgctcggca agacgccccc tttccaatgc    840

ctgctgttct accaatagct gccgttcagc ctgaatgtca tcttgttgtg tagacaactg    900

acgttttaac tgggaattct cccaactctc gctacaagat ttncccaaac gacaaaagat    960

gtcttggact tgtntgggtt acacgagcat tttctgagga ttttatacca atn          1013
```

```
<210> 90
<211> 689
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (643)..(643)
<223> n equals a, t, g, or c


<220>
<221> misc_feature
<222> (650)..(650)
<223> n equals a, t, g, or c


<220>
<221> misc_feature
<222> (658)..(658)
<223> n equals a, t, g, or c


<400> 90
gatatccaca tcgagacgtt tgaaaagagt ctggtgatcc gttttcgtgt tgacggcaca     60

ttacatgaaa tgctgcgtcc ggggcgcaaa ctggcctcgc tgctggtgtc gcgtatcaag    120

gtgatggcgc ggctggacat tgccgaaaag cgcgtgccgc agsatggacg tattgcgctg    180

ttgctgggcg gccgggcgat tgacgtgcgt gtatcaacca tgccttccgc ctgggggaa    240

cgggtggtgc tgcgactgct ggacaaaaac caggctcgcc tgacgctgga gcgtctgggt    300

ttaagtctcg aactgactgc gcagttgcgc cactgttaca caaaccgcac ggcattttc     360

tggtgacggg gccgaccggt tccggcaaaa gcaccacgct gtacgctgga ttgcaggagc    420

tgaacaacca ctcgcgtaac attctcacgg ttgaagaccc tatcgaatac atgattgaag    480

ggatcggtca gacgcaggtt aacacccgcg tcggcatgac attcgcccgt ggcctgcgcg    540

caattttgcg tcaggacccg gatgtggtga tggtcsgtga aatccgcgat accgaaaccg    600
```

```
cagaaatcgc tgttcaggct tcaactggac cggacacctg ggnactttcn acgctggnat      660

accaaaaaaa aggggtgggg ggattatac                                        689
```

```
<210>   91
<211>   1281
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (46)..(46)
<223>   n equals a, t, g, or c


<400>   91
ctcagcagaa ccgagatctt ccatcagctg gcgggcctcg gaagantccc gctgccagac       60

cgcattcagc cgctgttcaa attcggcctc gtcgatttgc ctcagcgtaa agggcgcgtt      120

cagcccccgt tgcagctcct gcaaaacaga gagcgacaac ggatgcacat ggaggatctc      180

cagcgacgct tcgcaccatg ccaccaggct aaaccgacgg ctgaaactat agggcagacg      240

cacggtgtta gcggtggttt cctgtgctac aggcaccatt aacgcgttct cccggcatta      300

aggaacgcac gaacttctgg cggtaaggcc tgattttgcg caggcaatat cgctgcgcag      360

tgtgcggcat caggcttaag ccctgctcat cgcggtagat ttgctcggcg cgcatgtagt      420

tatatttgcg ctgcgacaca ccgtctgccg ccataccgtc acgcagaatg gtcgggcgga      480

taaacaccat caggttacgt ttttcttttt tatccgccgt cgatttaaac aggttaccaa      540

tcaacgggat atcgcccagc agcggcactt ctcgccacgc tttctcccgc ctggtcgtcc      600

atcagaccgc caagcacaat tagctcacca tcgttagcca acacggtggt tttcagtttg      660

cgctcaccaa acaccacgtc gaggctggtc tgtccttcca ccttcgacac ttcctgctca      720

atcaccatct gtaccgcgtt tccttcgtta atctgcggcg tgactttcag catgatgccg      780

acttttttcc tctctaccgt gttgaaagga ttgctgttat tggagccaac ggtagatcca      840

gttaataccg gaacgtcctg gcccaccatg aagaaggctt cctggttgtc cagcgtggtg      900

atgctcggcg tggagagcac gttcgagctg gagtcgtttt tgaccgcctg taccagcgcc      960

atccagtcgc ctttcamcac gccaaccgcc gtaccgctaa agccagaaag aagctgagca     1020

agcgtggaga gatcgccgtt agtatccgga tttatggtgg tagcgccgtt ttcactgatc     1080

accgtggagc ctttctgcgg ttttgcytga gaaatcgtgc gcccagcgta ccaatacgga     1140

tctgcgtacc gttagcaaac tgcattaatc cggcatcttt cgacgcccac tgcacgccga     1200

aattgataat tcaccttcgg caacttccac gatcaacgcc tcgacatgta cctgagcacg     1260
```

gcgaatatcc agttgttcaa t   1281

<210> 92
<211> 421
<212> DNA
<213> Escherichia coli

<400> 92
caatattagc gcacggcacc aaaggtgatg aatgagcagg ctgraatatt attttcccgc   60

ggtgcagaaa tccttgttct tggttgtaca gaaattccgg ttattcttggc gcaacgttaa   120

agagcagcct tcccgctata ttgactcacg gcgtcactcg ttcgtgccgg aataaaatgg   180

tacgaaaatc gtgtcggtaa acattatctt ttaacccaat aatcatttaa atcgcagcca   240

gaaagttatt cgcttttaac tgaattatat ttataacgga gaacattatg gtttggctgg   300

aaattatcgt agtacttggt gcaataktttt ttggtattcg ccaggggggga atcggtattg   360

gtttatgtgg cgggcttggg cttgccattc tgactctggg acttggtctg cctatggggg   420

g   421

<210> 93
<211> 1018
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (781)..(781)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (990)..(990)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (993)..(993)
<223> n equals a, t, g, or c

<400> 93
gttaacaatg gcgtaacaaa tttcaataac gtagaagatt tgctgtcaga aaggtcaata   60

tttcctttca atgggtcaaa gacttgcttc tggaattcat ccggtttttt ctccagacgt   120

tttccttctt cataatagtc aatataactt ttaccactga gtgtttttgkc yccatttctg   180

gtgacaccag ctaactcacc tatcagcgta tcccmatgtt gctgggtaat gaggactgat   240

ctttcaacag aatactcttt attatactga gataatattt taaagttatc ttctaaaaat   300

```
gcagcatggc gggcatcata tcccattttc aaagtaattt ttgccgtgtt ttttctccca    360

ttcagcaata acatcggcca ttttactggc gacatgttca aacattgcct gttttgaagc    420

ctcaaggatg cctgaaatta tccccgtaac agccctacc agcgcgctta ccggtgcacc      480

aaccagagat gtcgttgcag cagcactaat acctgaagat actgaagcca gaacagtgct     540

tatcgttgtt aacgatgcat caatagctcc tgtttctttg tggaaagcag caagtaaact     600

gtcaccatcg tatccaagtt ttttgaatcg ttgtgaatac tcctctattt tattggcacg     660

tttaaactta tcggcaatgg acaggaatga gaggggacta attgccagtg tcacaacaga     720

agcaattaaa ccggcagcag cagcagatgt agataacccc tgtgctgcac gctgtgcgay    780

naatatattg agaaatacct tttccaacat tacccagtac tttcgttgtt aattcaacac      840

ctgctgcagc tttagttccg gtatctgcat ctgcattgct cagaatgaaa cttgctgaaa     900

tcgcagataa aatacccgat acagtatcta accctgcacc gatattcatca aggttaggta     960

aattctgtaa cttattacca acaccgttcn ggnctgttgg tattgggata atacactt      1018
```

<210> 94
<211> 400
<212> DNA
<213> Escherichia coli

<400> 94

```
ggcaatgttc aaatcgatat tgtgcagcac ctgggttggg ccaaagtgct tggagacgtt     60

tttaaattca atcacaggat tttcatcctt cttttccagac gacgcagaat aaagctcagc    120

accagggtaa taatcagata gaacaccgcc acggcgctcc agatctcaag ggcgcggaag     180

ttaccggcaa taatttcttg cccctgacgg gtcagttccg ccacgccgat cacaataaac     240

agcgaggtgt ctttaatgct gatgatccac tggttaccca gcgcgcggcag catacgacgc    300

gtgccagcgg taaaatgacg tagcgaatgg tttcccmacg tgaaagaccg agcgccagtc     360

ctgcttcacg aaaacctttg tggatagaca gcaccgcacc                           400
```

<210> 95
<211> 1857
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (16)..(16)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (1465)..(1465)

<223> n equals a, t, g, or c

<400> 95

```
cgtgttcccc tggccngctt ggtttcgcca tagacgttga gcggggaaat cacatcggtt     60

tccacccaag gacgttcacc acttccatcg aaaacatagt cggtggaata atgtactagc    120

cacgcaccta atgcttcagc ttctttggca ataaccgcca cactagttgc attgagtaac    180

tcggcaaatt cccgctcact ctccgctttg tcgactgcag tatgggccgc tgcgttaaca    240

atcacatccg gcttgacgag acgtaccgtt tcagccaccc ctgcagaatt gctaaaatca    300

ccgcaatagt cggtggagtc aaaatcaacg gcagtgatgt gccccagagg cgccaatgca    360

cgctgcagct cccatcctac ctgaccattt ttgccaaaca acagaatatg catcaggtac    420

gctccctata gttttgttca atccaggatt ggtaggcacc actcttgacg ttgttaatcc    480

attgttgatt atccagatac cactgcacgg tcttgcgaat accagactca aaagtctcct    540

ctggctgcca atccaacgca gcgctcatct tgcaagcatc aatcgcatat cggcgatcgt    600

gtccggggcg atccgccaca taagtaattt gatcgcgata agagccagct ttcggtacca    660

tctcgtcaag cagatcacaa atagtatgta ctacatccag gttctgcttc tcgttgtgac    720

cgcctatgtt ataagtctcc ccgaccaagc cagtggtcac taccttgtag agtgctcgtg    780

catgatcttc cacatacaac cagtcacgaa tttggtcacc tttaccataa accggcagcg    840

gcttgccatc cagcgcattg aggatcacta gcgggatcag cttctcggga aagtggtaag    900

ggccatagtt gttggagcag ttagtgacaa tggttggcag gccgtacgta cggtaccaag    960

cacgcaccag atgatcgctg gaagccttgg aggcagaata gggactgcta ggagcgtagg   1020

aggtagtttc ggtaaagagc ggcaatgcct caccggaggc tacttcatcc ggatggggca   1080

gatcgccata tacttcatcg gtagaaatat ggtggaagcg aaaggccgcc ttgctcaact   1140

cgcccagact gctccaatag gcgcgagccg cttccagcaa tgtataggtg cctacgatat   1200

tggtttcgat aaagtcggct ggccctgtga tagaacgatc aacatggctt tcagcagcca   1260

gatgcatcac ggcatctggc tggtgcagag caaacacccg atccaactca gcacgattac   1320

agatatcaac ttgttcaaac gaataacgct cacttgacga tacactggcc aaagattcca   1380

aattgccagc ataggtgagt ttatccagat tgataacgga gtctccagta tcactaatga   1440

tatgacgcac cacggcagag ccganaaaac cagcaccgcc agtaacgaga atcttcatat   1500

atttcgctct cttattttac aattaatagc tattaaaaat aaacttgttg actccgatat   1560

attagaaata tcggdatacc gaactaaata tttttatatg cttttgccaa gcagactcta   1620

tatccaccct gtatcactat gctttctggc atacaatatc ccatcattga cacaatgata   1680
```

aacatataaa taaagaaaat tttaaatcat ataaccaaat tactttcatt tattatcaat   1740

aagtattttg ataagaatac ctataccaca gggagccccc tgaaacataa tattagcgaa   1800

gaatgataac tgatagttac catcttagag ataaaaactt atttgtgtgg cgggatg   1857

<210> 96
<211> 1128
<212> DNA
<213> Escherichia coli

<400> 96
agctctttcg tgtaaaataa aatacagcat atcctatata gcttacaatc attaaatgaa   60

gtcgccaata tttatatgtt ttatcaatat cagcttgact cattgttatt tctttgtcag   120

gagactctga aaatatggac atatataacc tcttttatta tgaaatattt tcaataataa   180

taatccgtta gtaatcctat cataggtaa tgtctcatca tgttaaaatg atcacattta   240

taatcatgtc aaaaagaaca acagaaaaaa tcatataaaa tcaattaaat ataattgcca   300

catattgttg ttattwaaac attggtggtg aatttaaagc gagaacagtt tgtaacagtg   360

actccttgca gactaagtta gagtctcctt ctaaaattag acggwkttct attgatggat   420

aatagtaagc gcaccgtgaa kgacgtgggg taaaaattag tttacagatt gagtgacatt   480

ccagggcaac aactctttca cgcggttggc aggccaggtg ttgattacac tgatcacgtg   540

gcgtacatta ccggactcga ttccgttaag tttgcagcta ccgatcaggc tgtacatcac   600

tgccgcactc tcgcctccac catcagagcc gaagaacatg tagttacgcc gccccagtgc   660

aatacccgga ggcgttttca cacaggttat tgtcgatctc cacccagcca ttgcggcagt   720

attcgttcag agcgtcccat tgcttcagca gataggtgaa cgctttcgct gtatccgagt   780

ggcgcgacag tgctcatctg cccctggagc cactcataca acgactgcat tagcggtacc   840

gttctggctt ttctgaccgc cagtcgctct tctgccggac tgccggggat ctcagcctcg   900

atagcgtaca gttcaccgat acgctgcagg gcttccgtgg tgatgtcagg tggcgctctt   960

gcatgcacat cgtggatttt tctccgggca tgggccatac aagccgcttc ggttacctga   1020

ccgctttcgt aaagagcatt gtaacccgca tatgcatcgg cctgcaggat acctctgtag   1080

tccgccagat gttgctgtgg gtggatgcct ttgcggtcgg gagagtat   1128

<210> 97
<211> 439
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (401)..(401)

<223> n equals a, t, g, or c

<400> 97
```
gtttgcttac gaaccgtgaa atatgacggt cccatataac tgcctgatac ttgtatatca     60
tatacttgtg catgcatgtc atcattaaaa agtactttgt caccgtcttt aagttgaaga    120
cgtgtaaaat ctttatacgg caagtagacg gaaaacgggc gctttccctg tcgccaatca    180
caccgacatg actgactttt gcgagaggaa gtgcataatt caccaattca gagcctaatg    240
cattgcgctg ggtaagctca aatcggaatg ggtttcgaac ctttcccgca acattgatca    300
ttggaccttg ttgctcaact gaaaatcaca tcttgatctt ttaatgccag cttcgggagt    360
ttcccatacc gtatgaaatc ataaagatca atttgckgtg nttactgcta ttttgtgcgt    420
gaacacctta atttttgcg                                                 439
```

<210> 98
<211> 906
<212> DNA
<213> Escherichia coli

<400> 98
```
tattcgtaat tagttataaa cagatgatgt aaacaccagt tgactagagt caatcttata     60
ctggcaacat ctatgattaa tttgtgtggt tataatttta aatatcttat atttatgggc    120
tattattgat atctgtcaga gtatcaataa tagaaggtaa ttgtttttaca tactatcaac    180
ttttggataa cgttttaaaa tgcaccttgc acatcgtatt ttattatttt cactaatctt    240
ttttataacg gcctgcgcac atgatccaaa acaagttgaa gcctctcgtc cattggtaac    300
agcgattaat tcttcttatt ctcttattcc tgaagatttg caggcaccat taaataacca    360
agatcaaggc acgacattca acaaaaatgg cgtaatttat actattgagg aaaggtatat    420
atcggcttta ggttctcaat gcataaagtt aagttatgcg atgaataaaa attattcaaa    480
gcgaagtgtt gtatgtaaag agaataacaa gtggtatcaa gtacctcagt tggaacaaac    540
atcagttagc actttgctta ttgaagaata aagttgaagg tagacggtta gaaaataatg    600
aaaatttcgc aacttagcac tcttctcttt cttatttctg catcagcatt cgccgcaata    660
gagcaaaatc aatctaatgg ttcacattta gattatgatc ttgctgcctc gacaggagag    720
tctcggaaaa tgctagcaga catcactgga cagcctaata caacctccac aacaggaagc    780
ttcacacaac agaatcgtaa tgggatgttg cttccaggag agtcagatgt acgaaaatta    840
ctgccgcaat ctgaagcagg cttacctcct ccgtatggtg ctaatttatt tgccggaggc    900
tatgaa                                                              906
```

```
<210>  99
<211>  1395
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (1121)..(1121)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (1264)..(1264)
<223>  n equals a, t, g, or c


<400>  99
gcggcctgat atatgccgtt attacaaaaa gaggatcaac cacactgcct tttggaccgt      60

gtttaagtct gggcggtata gcaacacttt atctacaggc attgtttttaa tgataaccac     120

gtcattatca aagtgacatt ttaactctta ttaataacct tagagattat ttaccatgtc     180

gataaaacaa atgccaggga gggtattaat atcgctattg ttgagcgtta caggattatt     240

aagtggctgt gccagccata atgaaaatgc cagtttactg gcgaaaaaac aggcgcaaaa     300

tatcagccaa aacctgccga ttaaatctgc gggatatacc ttagtgctgg cgcaaagtag     360

tggcacgacg gtaaaaatga ccattatcag cgaatcgggt actcagacca cgcagacacc     420

tgacgccttt ttaaccagct atcaacgaca aatgtgcgct gacccaacgg tgaaattaat     480

gatcaccgag ggaattaatt acagcataac gattaatgat acacgtacag gtaaccagta     540

tcagcggaaa ctggatcgta ccacctgtgg aatagtcaaa gcataacgtc gggtagatat     600

aaattggcgc gggttgtttt tcgtgacgca cgaatttatc tcattcaatg gctgacaaaa     660

attcgtcaca ctcttaacca gagacaatct cttaatacag acaaagagca tctgcgcaaa     720

attgcacgcg ggatgttctg gctgatgctg cttattattt ctgcaaaagt ggcgcattca     780

ctctggcgct atttctcctt ttctgcggaa tatacggcgg tttccccatc ggcgaataaa     840

ccgctccgtg cgratgcaaa agcgttcgat aaaaatgacg tgcaattaat cagccagcaa     900

aactggtttg gcaaatatca gcccgtcgcc acgccggtaa aacaacccga acctgcacct     960

gtggccgaaa cgcgtcttrr tgtggtgttg cgtgggatcg cctttggtgc cagacccggc    1020

gcggttattg aagaaggtgg taaacagcag gtctatttgc agggtgaacg cttggctcgc    1080

acaacgcagt gattgaggaa atcaaccgcg accatgtgat ntgcgctatc agggaaaaat    1140

agagcgcctg agcctggctg aagaggagcg ttccaccgtt gccgcgacca acaaaaaagc    1200

tgtcagtgac gaagcaaagc aagctgttgc tgaacctgct gtcagtgcgc cagttgagat    1260
```

```
cccngctgcc gtgcgtcagg cactggcgaa agatccgcag aaaattttta actatatcca    1320

gcttacgcct gtgcgtaagg aagggattgt cggttatgca gtgaaaccgg gggcagatcg    1380

ttctctgttc gatgc                                                     1395
```

<210> 100
<211> 380
<212> DNA
<213> Escherichia coli

<400> 100
```
cacttgaata aaaactgacac cgtttacctc cataatagtg agcatagccg ccattgcggc     60

ctgatcggcg aaccggaaat cgcaacctgc gaacgacaac cgaaccggca agcgtgcggg    120

aaggacggat accggactct ttcgccactt cagcaatcac cggcagcgtg gaaaaaacaa    180

taaacccagt accggccata atggtcatag accaggtgat aatcggcgcg attatgttga    240

tatatttcgg gttacgccgc ataaaattac cagcgacggt accagataat ccattcccct    300

gcggcctgta aggctgaggc cgccacaaca acggtcataa taatcaggat cacgtcgact    360

ggcggcgacc ccataggcag                                                380
```

<210> 101
<211> 995
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (22)..(22)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (35)..(35)
<223> n equals a, t, g, or c

<400> 101
```
ctttacggtt taatagggga angccgactg gatgnaaaaa tggaatctgg agcccagaat     60

aaatctgaat ttaatgtgga ctggatatgc tccaataacc ccggcaggga gtcatctgtg    120

cgaagatatt tgcgttatgc tgtaatataa taattcaatg tatttcagga acagtaatat    180

actacagttt ctactttctt gtatttaata aattgttccg catcgctaaa agcaggtctt    240

tcagaagcca caagaattct gtggtcccag tattttagt tatcctattt ttatatctaa    300

cttgtaatac ttacagcatt ttcattcatc ctaatggaag gctgtaataa tctttgagct    360

tagaaacatc aaaattatgc atctcattaa ttttgtcagt cacacgacct ctggtaaaaa    420
```

```
taaaacccc agaaatatgc catttctagg gggggcgtaa gaatcaatat attttagtgt     480

tgttacattt agctcttagc tcttagctct tagctcttag ctcttagctc ttagcgtttg     540

tagtttcatc gcaatgagta aaaggacaac aagaataagt gataacgtta agagaagagc     600

atagaaacca ttccagtggt atatttctat tattttagac aatggatagc cagccgcgga     660

cgcaccaaga tatgcgaata aactaacaaa accagtagaa gcaccagatg catatttatg     720

tgagttttca gcagctgcca ttgcgatcag aaattggtggc ccaaagataa agaagccagt     780

gatgaaaaat aataacgaaa aaacatattt actatcaata gaaaccaacc atagacatgc     840

agaagcaatg attataccaa ttgtataaat aacattcatt tgagagcgat tgcccttaaa     900

cagaatatct gatccccatc cagctacgat agcaccaaaa aagcctccaa cctcaaacat     960

cattactgtt gcatttgctg ttagcaagtc atatt                              995
```

<210> 102
<211> 817
<212> DNA
<213> Escherichia coli

<400> 102
```
taaaagcgac tccatgtgaa atttctgttt gtcgttttt cccgttgta gcggctctgc      60

tcctggcttc cctgatagtc agcccgcagg cgccagggcc ccagattccc cccacagtc     120

ccgttataac tgaactgatg agagtctcct ccctgataat tacgggaaac cgtcccgttg     180

aggttataat ccagcatcag tccgggaatg ccgtcgtccc agcgtgaggg aggcagccag     240

gtggcatcag aatactcaag ccaggcctgc ggcattga tgcgtaatac gcccgctccg     300

gtatcaggac gaatatccac tcccggcaac ccatgaaaat ccgcacactg accatcatgc     360

cagtaaacaa ctttatccag agattctgct gttaacccca tcagtctgac catatctgat     420

gtcagacagc tgcggcaatt ttttttctgc cttatctcct gacaacgcag gttcaacaaa     480

tgamatctgt aacgatgcgg gagaaatact ttgcccgtta acaatcacat ccagaagata     540

ttgccccggc agaacatagc cggcttctga aaaacgggtg aagtcaatat ttttcttgtc     600

cgctgcgtca agtacatctg tattaaactc aacggcactg gctgcgttac aaaacagaga     660

caacaatatc acacaggtaa tattgttgac tgcaaaaggt attctgtctt tcattccacg     720

catcaccaga ttcacaaaaa agataaataa ccggacatct caccggagtg actcactcat     780

aatcgacccg gaatcccagc acagcaaaat aatttcc                            817
```

<210> 103
<211> 709
<212> DNA
<213> Escherichia coli

<400> 103
```
tttttgtcag agcgttcact ctctggctgg atgatttcgg ctcgggaaat gcaggcttaa      60

tgtggggact gtcggggatg tttgaacggg taaaaataag tcatgagttt tttcattatg     120

tcctgaaaaa cgggtgtgca atgccacttc tccgtgctgt ggcagacact gttgcctgtc     180

acaacagagg cgtgatactc gaaggtgttg aaaatgaagc gttgttccgt attgccagag     240

acatgaatgt ccagggctgt cagggatggc tctacaggcg tgtgggggtt gatgaattat     300

ccgcgcttat tcagcagtat gaataatcct ttttcacaga ctggtcagct gtcaacattt     360

atgttttttt atctgcggga atttatccgt ctgcctgtcg ggactactct gtcatacaga     420

aatcaggcca gaataaattg ttgtggaaag gtgagattta ccggatgact gatgtgctct     480

tgtgcacagg tatacaggca gtgtgtttcc agtatatgga aaatgattaa atgaataaca     540

cagacttatt agaaaaaatc atcaggcatc aacaaaacaa agatcctgca tatcctttcc     600

gggaacatct tttgatgcaa ctctctgtatcc gtgtaaacaa aaaaatacag aacagtacat     660

ctgagttttt tggtgcatat ggtataaatc actcagtata tatggttct                 709
```

<210> 104
<211> 485
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (477)..(477)
<223> n equals a, t, g, or c

<400> 104
```
tcatcaaggg acggggcata tctggatgcg acagggcaaa ccaaccactg agaatccaac      60

ctgccaaagc ctgaccagga agtccgacgt taaagaaacc agctcgactg gcaacggcaa     120

aaccaagacc aatcaagacc agaggaccca tagcacggaa gatttctcca atcccacgca     180

gactgccaaa ggctgtatag aacaattctt cgtagcccca aatagcatca taaccgaaga     240

tccacatgac aatggctccg agtaaaattc ctaggaatac agaaatcaag ggaaccgaaa     300

tttgttgtaa tttttttagac atcactcttc tcctttccca agttyccacc agccatcaag     360

acaccaagtt cttgtttatt ggttgtttct ggtgatacaa taccttgaat cttaccatcg     420

tggataacgg caatacggtc tgagacgttt aaaatctcat ccaattcaaa gctgacnaca     480

aggac                                                                  485
```

<210> 105
<211> 459

```
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (436)..(436)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (449)..(449)
<223>  n equals a, t, g, or c


<400>  105
agcagaatag gcaacatcac cacgccgaca aacagcgaga agagaatgac gccagccgcc      60

aggaaacacca gctcatagcg cgccgggaag acgttaccat ccggcaagag cagcgggata     120

gagagcacac cggccagagt gatcgcccca cgcacccggg cgaaagacgc gatcaggatt     180

tctcgtgtgg tccacgaacc aaactccatc ggcttcttct tcaggaagcg gttgctgaac     240

tttttcatcg tccacagcca gccgaaacgg accagcatca gcgccgcata tatcagaata     300

atattggtaa acagcatcca gatttcgacg ttagggtcga tttcttgctg gccatcagcg     360

gacgtcttcc agrattaccc ggcagctgca gaccttaaca gcaggggaaca ccatggccgt     420

tttaaggaca atttcnagca tcggcccang tgctgtttt                            459


<210>  106
<211>  908
<212>  DNA
<213>  Escherichia coli

<400>  106
ttaatagcac taatactgtc ctgctctatt ccgctgacat tttcagtcag ctgctgtatg      60

ggatgggtta cccaaaacca gaccagcata cctgacaaga gaccgcatat cactaccaga     120

aacagcgacc agtacagtgc attccatagt gcctttgtcc aggctgtatc agtaagagca     180

ttaagttcct ctccctgtaa aataatatac agatatcctt tcggttcatc actctggtaa     240

agcggtgcgg tactgaaaac ttttttgctta tttacacttc ggggatcatc accatatacg     300

ggccagacac tgccggagag aaatttttttc aacggtgcaa tattgatata ccggcgtttg     360

agatgacccg gagggcggcc tccacaagca gtcgcccttc cggtgaaacc atatacagct     420

ccacactggg attaagcgtc atcagacgct caaacagact cgttaatgtc cggtgttacc     480

agacaaaaca agcatcgcaa gacgccacaa acggtgcgct tacttaaata agccggttac     540

aggtgaaaaa tcacgtcctg atattcaaat gtttttttcag gtcatatttt agcaggacac     600

taccagcacc taacagcagc acatcttttta taacaaaact gtcaactttc cccagttgtg     660
```

```
gtaacaggct gagcgtggtt attcctgtaa caataacgat aatatctccc agtacaccag    720

cagcaggcct gaagaaaccg ataatcaatg ccagaaatgt gatagtttcc actatgccga    780

ggaaatagct ccctccatga ataccaaata taatatacag gatattcagc caggtgggat    840

atatcagggg cttgagagcc ataacttcaa aatcaaacca tttataagtc ccaaaaagca    900

taaatatt                                                              908
```

<210> 107
<211> 1057
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (88)..(88)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (1019)..(1019)
<223> n equals a, t, g, or c

<400> 107

```
cgggctaacc caatatgctt tattaacccg ggataaattac cctgttgcat attgtagttg     60

ggctaattta agtttagaaa atgaaatnaa atatcttaat gatgttactt cattagtcgc    120

agaagactgg acttctggtg atcgtaaatg gttcattgac tggattgctc ctttcgggga    180

taacggtgcc ctgtacaaat atatgcgaaa aaaattccct gatgaactat tcagagccat    240

cagggtggat cccaaaactc atgttggtaa agtatcagaa tttcacggag gtaaaattga    300

taaacagtta gcgaataaaa tttttaaaca atatcaccac gagttaataa ctgaagtaaa    360

aaacaagtca gatttcaatt tttcattaac aggttaagag gtaattaaat gccaacaata    420

accgctgcac aaattaaaag cacactgcag tctgcaaagc aatccgctgc aaataaattg    480

cactcagcag gacaaagcac gaaagatgca ttaaaaaaag cagcagagca aacccgcaat    540

gcggaaaaca gactcatttt acttatccct aaagattata aagggcaggg ttcaagcctt    600

aatgaccttg tcaggacggc agatgaactg ggaattgaag tccagtatga tgaaaagaat    660

ggcacggcaa ttactaaaca ggtattcggc acagcagaga aactcattgg cctcaccgaa    720

cgggagtga ctatctttgc accacaatta gacaaattac tgcaaaagta tcaaaaagcg    780

ggtaataaat taggcggcag tgctgaaaat ataggtgata acttaggaaa ggcaggcagt    840

gtactgtcaa cgtttcaaaa ttttctgggt actgcacttt cctcaatgaa aatagacgaa    900
```

```
ctgataaaga aacaaaaatc tggtggcaat gtcagttctt ctgaactggg caaaagcgag      960

tattgagcta atcaaccaac tcgtgggaca cagctggcca gcctttaata ataatgttna     1020

actcattttc tcaacaactc aataagctgg ggaagtg                             1057
```

```
<210>  108
<211>  752
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (714)..(714)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (719)..(719)
<223>  n equals a, t, g, or c


<400>  108
taccgggccc ccctcgagg tcgacggtat cgataagctt gatatcgaat tcctgcagcc       60

cgggggatcc actagttcta gagcggccgc caccgcggtg gagctccagc ttttgttccc      120

tttagtgagg gttaatttcg agcttggcgt aatcatggtc atagctgttt cctgtgtgaa     180

attgttatcc gctcacaatt ccacacaaca tacgagccgg aagcataaag tgtaaagcct     240

ggggtgccta atgagtgagc taactcacat taattgcgtt gcgctcactg cccgctttcc     300

agtcgggaaa cctgtcgtgc cagctgcatt aatgaatcgg ccaacgcgcg gggagaggcg     360

gtttgcgtat tgggcgctct tccgcttcct cgctcactga ctcgctgcgc tcggtcgttc     420

ggctgcggcg agcggtatca gctcactcaa aggcggtaat acggttatcc acagaatcag     480

gggataacgc aggaaagaac atgtgagcaa aaggccagca aaaggccagg aaccgtaaaa     540

aggccgcgtt gctggcgttt ttccataggc tccgccccct gacgagcatc acaaaaatcg     600

acgctcaagt cagaggtggc gaaacccgac aggactataa agataccagg cgtttccccc     660

tggaagctcc ctcgtgcgct ctcctgtttc cgaccctgcc gctttaccgg atanctgtnc     720

ggctttctcc cttcgggaag cgtggcgctt tc                                  752
```

```
<210>  109
<211>  486
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (11)..(11)
```

<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (477)..(477)
<223> n equals a, t, g, or c

<400> 109
cttgggtaat ngacctcata tccctccgcc aaaaaaggat ctacatgcga ttttgcgaag   60

ccagcgttga ttgtaggcga gagaatggtt ctgttgtttt ggtacatttc agttgtcatg   120

gatttcacaa atgtagcatg acctttcacc tgtccaagag actgcaacac catctgtcca   180

aaacaataaa taggaatcaa acaggctacc aacatcaaca agtatcccaa taaggctcgt   240

agtttagtcc ttgacatgac gcccctccaa ttgcttttct agtcctttga caatccgtcg   300

attacgatac acgcgataca gcaagagaag gatgaccgcc atcgctccta gtaataacca   360

caaccagaat tgcccacgct ctctcaccgc tcgattccgc tctgcaattg gtgccgtata   420

cggaatccgc ttcccacgta ccaacagacg atgactgtta atcctatacg gtgtacnagt   480

caacca   486

<210> 110
<211> 313
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (7)..(7)
<223> n equals a, t, g, or c

<400> 110
ttacgcnttc aaccaggtct tctggtttac caacgcccat caggtaacgc ggtttgtctg   60

ccggaatttg cgggcataca tgctccagaa tgcggtgcat atctgctttc ggctcaccca   120

cagccagacc gccgacagcg taccatcaaa accgatatct accagacctt taacagaaat   180

atcacgtaaa tcttcgtaaa cgctgccctg gatgatacca aacagcgcat ttttgtttcc   240

gagactgtca aaacgctcac ggctacgtcg cccaacgcag agacatctcc atggagcgtt   300

ttgcgtaatc cca   313

<210> 111
<211> 1613
<212> DNA
<213> Escherichia coli

<220>

```
<221>  misc_feature
<222>  (27)..(27)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (40)..(40)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (168)..(168)
<223>  n equals a, t, g, or c


<400>  111
cggaaatccc agtaattcca tcctcanata ttccactcan cctcactgta acaaagtttc      60

ttcgaataat aaaaatcatg ctttctgtta tcaacggaaa ggtattttta ttctctgtgt     120

ttgctttatt tgtgaaattt agtgaatttg cttttttgttg gctttatntg atgtgtgtca    180

cattttgtgt gttattttc tgtgaaaaga aagtccgtaa aaatgcattt agacgatctt      240

ttatgctgta aattcaattc accatgatgt ttttatctga gtgcattctt tttgttggtg     300

ttttattcta gtttgatttt gttttgtggg ttaaaagatc gtttaaatca atatttacaa     360

cataaaammc taaatttaac ttattgcgtg aagagtattt ccgggccgga agcatatatc     420

cagggcccg acagaagggg gaaacatggc gcatcatgaa gtcatcagtc ggtcaggaaa      480

tgcgtttttg ctgaatatac gcgagagcgt actgttgccc ggctctatgt ctgaaatgca     540

ttttttttta ctgataggta tttcttctat tcacagtgac agggtcattc tggctatgaa     600

ggactatctg gtaggtgggc atcccgtaag gaggtctgcg agaaatacca gatgaataat     660

gggtatttca gtacaacact ggggagactt atacggctga atgctcttgc agcaaggctt     720

gcaccttatt atacagatga gtcgtcggca tttgactaaa ttatggcatt ccggagtttc     780

tggaagataa aaaaagaagc ccttatcaga aagcagacag gttatatcag tattctgtcg     840

ataaataacc tgccctgaaa atacgagaat attatttgta ttgatctggt tattaaaggt     900

aatcgggtca ttttaaattg ccagatatct ctggtgtgtt cagtaatgaa aaagaggttg     960

ttatttatga ttaagtcggt tattgccggt gcggtrctat ggcagtggtg tcttttggtg    1020

taaatgctgc tccaactatt ccacaggggc agggtaaagt aacttttaac ggaactgttg    1080

ttgatgctcc atgcagcatt tctcagaaat cagctgatca gtctattgat tttggacagc    1140

tttcaaaaag cttccttgag gcaggaggtg tatccaaacc aatggactta gatattgaat    1200

tggttaattg tgatattact gcctttaaag gtggtaatgg cgccaaaaaa gggactgtta    1260
```

```
agctggcttt tactggcccg atagttaatg gacattctga tgagctagat acaaatggtg    1320

gtacgggcac agctatcgta gttcaggggg caggtaaaaa cgttgtcttc gatggctccg    1380

aagtgatgct aataccctga aagatggtga aaacgtgctg cattatactg ctgttgttaa    1440

gaagtcgtca gccgttggtg ccgctgttac tgaaggtgcc ttctcagcag ttgcgaattt    1500

caacctgact tatcagtaat actgataatc cggtcggtaa acagcggaaa tattccgctg    1560

tttatttctc agggtattta tcatgagact gcgattctct gttccacttt tct           1613
```

```
<210>  112
<211>  930
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (1)..(1)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (26)..(26)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (126)..(126)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (540)..(540)
<223>  n equals a, t, g, or c


<400>  112
ntagtccatg gccccatgga gcgaantcca aagtgtggat attgtcgttt taattcatcc    60

caaaagctga aatacgccaa aacccacgtt ccctaacatt ggtatcatgc ataatgacca    120

cagccnttca gaaagctttg gcaaccagct ttcaaaatca tgggtaccgc ttcaaacgta    180

tgcaaaccat caatatgaag cagatcaatg ctaccttgtg aaaaatgctc taacgcttgg    240

tcaaatgtac tgcgaatgag agtagaaaaa cctgaatagt gctgttgatt atattctgat    300

acttgcctgt aaacttcttc gccatacagc cccgcatgtt catctccccc ccaggtatca    360

acggcaaagc agcatgtttc taaatctagt ttagagactg cttggcaaaa tgagaaataa    420

gaacttccat aatgagttcc cagctcaaca atatttcttg gccgcagtgt gtcaactaac    480

cagaaagcaa aaggaatgtg ttctagccaa gcagattgtg caaggtatgt aggacaccan    540
```

```
aaaagagatg gtttgaaaat gaaattcaat tccctgccaa tatcagtgat gggatataac     600

tcacgattct ctactaactg actaattttt tgactatcca ttgaggaaaa ctcacatgta     660

tttatagaat taaatcaaga aacctgaaaa tacctatagt gcggtaactt attaactaac     720

atttaaatat taacaataca cttggaaata ttagttaaaa ataaatcatt atgatttctc     780

atcaatcctg gtgctcacgc aaagttgcca gccccataat aataagacca tagaacaagc     840

aaagtaatac acccacagtc gcaagattat agaatcgccg tggatattcg gcatcttccg     900

ctaaagttgg ttgggtaata accaatagat                                      930
```

```
<210>  113
<211>  659
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (238)..(239)
<223>  n equals a, t, g, or c

<400>  113
acgatatccc ccctctgctt ttgagaggca atctgcttta atacatgatt catcacaaca      60

cctcttgctg cgctttgatc ttaattttat attttgggt agggaaaagt aattgcccct     120

gatacggctc accatttacc aacgtttcac agctatgttc cagagctaaa ttaagacctg     180

gtagaatatc ccagcaattc accccttga catttttcaaa gctgtcataa gcaccggnna     240

agggggggcc aacatgttat acatggagca gccaatgata cgatattcaa agccctcttc     300

cagttgcatc agatcctgct tggtaasgga ggaagagagg ccacgaatac gagagcgatg     360

atgtgtaatc ggcataacctg tgatatgaag atcattcaat tcaggtaaga agatgcagga     420

ctcttgatgt ttcccctcgg tgtaaatgct gataccaatg ccccactctt tgagcccaga     480

gacaaagttt tctgtgccat caattggatc tagaacaatg taagaacctt tgggattcca     540

ctcaatatct cctaaagggg ctaattcctc tgaaattagc acatgccctg gtagatgctt     600

tctcacagagt tcgaaaacta tatcttgaac ttttagatcc agtactgcgg ccgcgatcc    659
```

```
<210>  114
<211>  556
<212>  DNA
<213>  Escherichia coli

<400>  114
cccggatata catcaggaga aattggagca gcaattggat gcgccattaa tgcctggtta      60

gggatccccg catgtgggca cgcaaatggc tcagaatatg atcgaccttc accagataaa     120
```

```
ccaaatctga gcgaaccatt tatcccaaga cccacgtatg acgcttcact tcattcctgg     180

catggcggat actgagtaaa tcatcctgaa tcattatgtt caacatcatc aattctccgg     240

acttgttgtc agatgtccgg agaatattaa ccttttcttc agaaacagaw tgatcaagaa     300

tcacactcct tctttaagag gattttatcc agaaaactga ctttcttcta tcaaaatmac     360

agtatcctgt tttatcagga ataatcttta cctccggtat cattcccata atcagatatc     420

agaaaaatgt gccagtaatt ttttactgat gacttcaaac atttcacatt catcacacgt     480

cagattactc caaagttctt tcagatatgt gttctgcgcc agagtgagtc tctgaataaa     540

aaacatacct tcagac                                                     556
```

```
<210>  115
<211>  503
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (60)..(60)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (65)..(65)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (90)..(90)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (460)..(460)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (496)..(496)
<223>  n equals a, t, g, or c


<400>  115
tacctgtttg tggaatttga cccagaagtg attcatacca cgactatcaa cgcgacccgn      60

gtgtncagcc acttcgtgcg ctttggcgtn cgcagcgata gtcccatcgg cggttattca     120

tcagctatcg gtatataaac cgaaagacat tgtcgattcc ggcaacccct tatccgggtg     180
```

```
ataaggtgat tattaccgaa gcgcgttcga aggctttcag gccattttca ccgaacccga      240

tggtgaggct cgctccatgc tattgcttaa tcttattaat aaagagatta agcacagtgt      300

gaagaatacc gagttccgca aactctaaaa cgcaatccca aacagtgttt tgacattagc      360

atccgtggtg gcagccagcc atgcggcatc ttctccacgc cagtgcgcaa tacgttgcaa      420

aatatggggc agatgggctg gctcgttgcg ccgggatgan ggctttggcg tgagatcgcg      480

agggagcaga tacggngcat cag                                              503
```

<210> 116
<211> 433
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (138)..(138)
<223> n equals a, t, g, or c

<400> 116
```
tttaacatca aaattacctg cagctgaaat gattttgctg atttcattaa ttaatggatt       60

aagattaccc tgacttccat aggctaatgc atcattccca tacacataac ttgccttatt      120

attactctgt tgatactnaa gtgccttttt aagggaatct ggtgtgatta ccctgccgtc      180

tttatcaaaa atctgctcta tctggtgatt agagatatca cctgactctt tttcaaacca      240

gttttttaaat gtaataccat ttttgtggcc aatggaaaga acattacctt cagctttata      300

catgatgagg tcattacctt ctcgcctgaa ggccacatcc cggaaatcaa tatcagccaa      360

actgagttta tcgtctttcc ccccatcatc gtcaataata tgatggccat atcctgaaag      420

ataacgataa ata                                                         433
```

<210> 117
<211> 302
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (280)..(280)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (299)..(299)
<223> n equals a, t, g, or c

<400> 117

```
gcgctctgtt cccgttcctg ttcatcacca tcgcctgtgg tgcggtatct ggcttccacg     60

cgctgatctc ttccggtacg acgccaaaac tgctggctaa tgaaaccgac gcgcgtttca    120

tcggctacgg cgcaatgctg atggagtcct tcgtggcgat tatggcgctg gttgctgcgt    180

ccatcatcga accgggtctt tacttcgcga tgaacacccc gcctgctggc cttggcatca    240

ccatgcctaa cctgcatgaa atggggtggc gagaacgcgn cggattcatc atggcgcant    300

ga                                                                   302
```

<210> 118
<211> 656
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (628)..(628)
<223> n equals a, t, g, or c

<400> 118
```
aattaataag ccaaatacta catcacgtaa tacttgcaaa gaagtgcgtg gagtttgact     60

aataatgggt ttgtccatta atacttaccc aaataatcgg ctcattatag caacgagcct    120

ccgattaaaa tttaaaatac tcaatcattt aatagcaacg ttagcagcta cagcgatttg    180

ataaataatt tgtgtgatat ctttaaatga ttgcatggtt ttgctatcaa cctgaggtag    240

aaccaatatc tgatcccccg gttgtacttt accttgccct ttaaattcta caagaccatt    300

tgcatgtaca atagcaattc gcttgtcgtt agctcgctca gtaaaacctc cggcccatgc    360

aacataatca tccaaattag catcggcatt atatactact gcttgtggca tcaacacttc    420

acccccccact tgaataagat cagtcttatt tggaataact atttgatcgc cttgttctaa    480

ttggatawtg gcaataacac ctttatctgc aactactact ttaccaagcg gtkgaacttt    540

acgagccttt ycaacaaact gcatcactaa ctctgcttct ttagcacgta tattcgcctc    600

accatcagat cgcgcgggtg tggtaaantt catacgttcc aagcggttta gagatt        656
```

<210> 119
<211> 436
<212> DNA
<213> Escherichia coli

<400> 119
```
atatgttatc tggatccaga taaagagcgt tcttgacccg ctatatccag acaggtcagt     60

tacaccctgt ccggaaaaac tgatcggaat aacaacagta tattttctaa tacactggca    120

aatggtgccg gcggtgtggg gattcagctt ctggatagcg ctggtaatgc ggttgctgct    180
```

```
ggacagaaga aatatctggg acaggtagga ccatcaacat ctctcaatat tggattaagg     240

gcatcttatg cactgaccaa tggacagact ccacctactc ccggacgagt tcaggcgtta     300

gttgatgtta ccttcgagta taattaggaa tgtcggggat gggctatccc cgatattatt     360

gcaggattag tctgtgatac agatatacag cccatatgaa caactgtttg catatataaa     420

aatgatgata atttta                                                      436
```

```
<400>  120
aataattaaa tttggaggga tcagttttct gataatgttc tgttattaaa acattatccc      60

atggggcgta gttatatcaa ttagcaggat cttatgagtt aactaacatc agttttgaat     120

ttttaatggg ggtaatttat cttttactaa aaatattta actattaata tagcatcatg     180

gttgttacgg tttgtttta ttctatttta taatgtgcta tatattgtat ttttgtgctt     240

agataaaatat gtttttcat tactttagtg atgttaatat tttgcgtgta gtaaaaatca     300

ttgttataac aaatgtcact gttgctatac tttgctgaac tgtttatcgg tcattttgat     360

tcaatcactg gttctatatt ttttaataac cgttctgtag cgattaatat attgctctcc     420

agaggataca ctatatgaaa tatattaaaa gtcattaatt ttnattcaat gttgtttaga     480

gttatgttca gtgtttggna ataggatgtg tttctaaacc gtcttgggtt ctataataaa     540

ttctattctt anaggtttt                                                   559
```

<400> 121

```
catgtccctt cctgaatact ggggagaaga gcacgtatgg tgggacggca gggctgcttt      60

tcatggtgag gttgtcagac ctgcctgtac tctggcgatg gaagacgcct ggcagattat     120

tgatatgggg gaaaccccgg tacggattta cagaatggtt tctccggacc tgaaagaaaa     180

ttcagcctcc ggctcaggaa ttgtgaattt aacagtcagg gtgggaacct tttctctgat     240

tcccggataa gggtgacttt cgatggcgtc cggggtgaaa cgccggataa gtttaattta     300

tccggtcagg caaaaggcat taatctgcag atagctgatg tcaggggaaa tattgcccgg     360

gcaggaaaag taatgcctgc aataccattg acgggtaatg aagaagcgct ggattacacc     420

ctcagaattg tgagaacgga aaaaaacttg aagccggaaa ttattttgct gtctgggatt     480

a                                                                     481
```

<210> 122
<211> 535
<212> DNA
<213> Escherichia coli

<400> 122

```
ccatatagtg acttcattga acaaaatgta aatggaatct tgctggagaa tgacccacat      60

atatggataa aagctctttc attacttgtt agtgcagatc ataaacgtag cgagttggcg     120

ttcaatgcta aaaaatatgc ttgtaaaatt gtaggtgtcg agtaaaaaga tatttttatt     180

taattggtgc tattgaatgt ttaaaaatcg aactgattgg tgttttaata ttaatcatag     240

gttatgatgc aaaaatatat taggcattgc ctgcttcaat taacttgaga gtgtaagttg     300

aattgaaata tggttatatg ataaagcaat atatgttaat acatatgtca accgaaaatg     360

ccattatgtg ttttttactt tatctgtaac gacacaatat ataaaataag gctaataatc     420

aaaacgcttt ttaatttgat tgtttttgaat caagtgacta agaaattctc ttgctgcaaa     480

taactccctt agtgattttt tttgagtcta ttttattctc tgggcatggt catgc          535
```

<210> 123
<211> 412
<212> DNA
<213> Escherichia coli

<400> 123

```
ccggccccat aatgatggtt ttattaaggt tagcgccgac ggtttcgatg aacgatttca      60

ggtcggtatc tttaaaatta gcggtgaaag tggcttcttc cgcccagacc ggtgaactgc     120

ataatgccgc tgccagcacc agcggcagta aacgcttttt tgttttgagg ccagttgtct     180

tcttacgcca gaccgacaac gtcatatcac gccaaaacac gatgaatgat tctcctggat     240
```

```
taaatgcggt tagcgcagcg cgatggaaat gtcgtggcgc gcacccttgc gtaaaaccgt      300

aagttgaatg gaatccattg aaggtaactg ccgcatcaga gcaatcattg ctcgtggatc      360

agtgaaatcc tgctcgattta gcgcaaatgc gatatcgcct tccttaaaac cg             412


<210>  124
<211>  576
<212>  DNA
<213>  Escherichia coli

<400>  124
tagcctgttc agcgtatatt tgggatgaga agccaaagtg gctttggtgg tgtcccagcc       60

caggttttta ttactgctgg ttatttacct ttcatgtttt tcaataaagt tgtgactcag      120

ttgaaatctg ctgtcaatgc taatatggga cttttttgtt atagacaagt gactcctttt      180

gcaacttta tagcacgttt tatgctagaa acaatggtgg gcatgattgt cggtataatc       240

ctagtactag gattattgtg gtttggcttt gatgcaatac ctgcggatcc attgcaagtg      300

atccttggtt attctcttct gatgctgttt tcttttctc ttggtattgt attttgtgtt      360

atttgtaatt krgcgaraga ggcagataaa tttcttagct tgttaatgat gcctttgatg      420

tttatctctt gtgttatgtt tcctcttgct actattcccc ctcaatatca gcattgggtt      480

tttatggaat ccacttgtgc atgctgtaga actaatccga agggcatggg atatctgggt      540

tatcgtagtc ctgatgtaag ttgggcgtat ctgtcg                                576


<210>  125
<211>  132
<212>  DNA
<213>  Escherichia coli

<400>  125
ttaccaagca ggatctgatg caactggaag aaggctttga atatcgtatc attggctgct       60

ccatgtataa catgttggcc gccgtacgcg gtgcctatga cagctttgaa aatgtcaaag      120

gggtgaattg ct                                                          132


<210>  126
<211>  542
<212>  DNA
<213>  Escherichia coli

<400>  126
gattaggggt cactcaggat tataaaaaag cggcagaata ctataaaaaa ggtgataaaa       60

ataatgatat tacagcacaa taccgtctgg caaaacttta tgaacaaggt aacggtgtaa      120

aacgtgatta tcaacaagca ataaaccttt accttaaaca tatcaacaga atggatcaca      180

tcactgcccc cagttttgtg gctctgggtg atatctattc tctgggatts ggggtagaga      240
```

```
aaaacccaca actggctgaa aaatggtatc aaaaagcgat agatgcagct aatacacaac      300

ataaccagga aataaatcat taaacgacaa cacttaatac catattgtga agatgttcag      360

acatggcgga attcccctat tctttgttgg cgcttacaac agactatatt ccgccatatc      420

tgtctttatt gtgtataaac catcgatact gatgtttgat agtgctaaat aatcattggc      480

gcaatcacaa agcctaatgc cactccagca ataattcccc ccaacccagg cagcataaat      540

gg                                                                     542
```

```
<210>  127
<211>  382
<212>  DNA
<213>  Escherichia coli

<400>  127
gaaccactta gcggcagcta tcgggaatcg cctgctgaaa gacggtcaga cagtgattgt       60

ggttaccgtg gctgatgtta tgagtgccct gcacgccagc tatgacgatg ggcagtcagg      120

cgaaaaattt ttgcgggaac tgtgcgaagt ggatctgctg gttcttgatg aaattggcat      180

tcagcgcgag acgaaaaacg aagcaggtgg tactgcacca gattgttgat cgccggacag      240

cgtcgatgcg cacgtgggga trctgacaaa cctgaactat gaggccatga aaacattgct      300

cggcgarcgg attatggatc rcatgaccat gaacggcggg cgatgggtga attttaactg      360

ggagactggc gtccgaatgt cg                                                382
```

```
<210>  128
<211>  126
<212>  DNA
<213>  Escherichia coli

<400>  128
cgtcccgcac ccggaaatgg tcagcgaacc aatcagcagg gtcatcgcta gaaatcatcc       60

ttagcgaaag ctaaggattt tttttatctg aattctagcc agatccccgc tgatttatgc      120

tggtta                                                                 126
```

```
<210>  129
<211>  258
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (142)..(142)
<223>  n equals a, t, g, or c


<220>
```

```
<221>  misc_feature
<222>  (205)..(205)
<223>  n equals a, t, g, or c


<400>  129
acccccagcc tagctggggg ttttctgtgc acaaaaaatc ccggcataat ggccgggatt      60

tgcgagcttt cccactattt cttgattcct aaacggaaca tatcagttgg gaataaaggt     120

tgtattatca cttcatcatt anaaatgaat aatttggcg ataaagctgt tacgtcatag      180

atattttcag cgattaatct taganttgac ctaaaaactg gaatacttgc atcatctgca     240

aagacaaaca tgtcatcg                                                    258


<210>  130
<211>  399
<212>  DNA
<213>  Escherichia coli

<400>  130
aaccagcggt tcgcatcatc tcatcccact gactctccgc tttttgacaga tctgcatatc     60

ctcgggccaa cttatccagt actccgtagt ttgccgattt attcacccgc cagaacaccg     120

cctcacctgc atcggcaagc cgggggggaaa actgataccc cagtagccag aacagaccga     180

aaataatatc gctgctaccc gcagtgtctg tcatgatttc aactggattc agccctgtct     240

gctgctcaag aagtccttcc agtacaaaaa tcgaatcccg taatgtaccg ggtaccacaa     300

tgccatggaa cccagagtac tgatcagata cgaattatac caggtgatgc ctcgtccaga     360

accaaaatat tttctgttag atcctgagtt gatggtctt                            399


<210>  131
<211>  745
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (297)..(297)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (323)..(323)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (330)..(330)
<223>  n equals a, t, g, or c
```

```
<220>
<221>  misc_feature
<222>  (335)..(335)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (715)..(715)
<223>  n equals a, t, g, or c


<400>  131
aaataacatc aacatacatt tgactcgcgg gggaaacgtt tacggagtct tcatactggc      60

actttttat gctgctgact actcttcgtc atcgccatca acatgcgcac gaatcagcgc     120

cataaacggt ttgccaaagc gttccagctt gcgcatccca acgccgttaa cgctgagcat    180

ttcgctggcg gtgatcggca tctgttcagc catctcaatc aaggttgcgt cgttaaacac    240

cacgtacggc gggacattac tttcatcggc tatcgattta cgcagtttgc gtaattnggc    300

gaacagtttg cgatcatagt tgncgccgan cgatntctgc atcgctttcg gtttgagcgc    360

cacgatacgc ggcacggcaa ttgcaaagag gattcgccgc gcagcaccgg gcgcgcggcc   420

tctgtcagtt gtagggcaga atgctgggca atattttgcg tcaccaggcc gaggtgaatc    480

agctggcgga tcacgctcac ccaatgttca tggctttttat cacggcccat gccatagact   540

ttcagtttgt catgaccata gtcgcggata cgctcggttat tagcaccacg aatcacttcc   600

accacataac ccatcccaaa ccgctgattc acacgaccaa tggtggaaag ggcaatctga    660

gcatcggttg aaccgtcgta ctgtttcggc ggatcgaggc agatatcgca gttcnccgca    720

cggctcctga cgcccttcgc caaaa                                          745


<210>  132
<211>  439
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (108)..(108)
<223>  n equals a, t, g, or c


<400>  132
agaatggcgg cttcttgccc cccttttgccc cggtcctgac tagcatggct ggagtccagt      60

gtccaggcca cgaccatgct catcatggaa gcagctttttg tagtacantc gcagcttatt    120

ttcctggaac gaaatgtctg gcatcgtggt gcataacata accccaatg cccagcagat      180

gcacagaagg ttctagaatc gcccactgat atcccataca aaatttacca aaacgtgttc     240
```

```
gtatttctcg tataaataat gtctctatgg tgacgttcta gacttcaaac ccactttttg      300

aatttgatga tgtgctccta atctcttcag gaatgtaacg cccttggttt acagctacca      360

atacactgga ggtatactta tctgcaactg gatgagaactag atgtacttga gcaaacattt     420

cataagctcg acgacagtt                                                   439
```

```
<210>  133
<211>  350
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (97)..(97)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (208)..(208)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (335)..(335)
<223>  n equals a, t, g, or c


<400>  133
ctggaaagcg acgttgatgg attaatgcag tcggtaaaac tgaacgctgc tcaggcaagg       60

cagcaacttc ctgatgacgc gacgctgcgc caccaantca tggaacgttt gatcatggat      120

caamtcatcc tgcagatggg gcagaaaatg ggagtgaaaa tctccgatga gcagctggat      180

caggcgattg ctaacatcgc gaaacagnac aacatgacgc tggatcagat gcgcaccgtc      240

tggcttacga tggactgaac tacaacacct atcgtaacca gatccgcaaa gagatgatta      300

tctctgaagt gcgtaacaac gaggtgcgtc gtcgnatcac catcctgccg                 350
```

```
<210>  134
<211>  400
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (256)..(256)
<223>


<220>
<221>  misc_feature
```

<222> (256)..(256)
<223> n equals a, t, g, or c

<400> 134
ccccaagatt gctaacaaat gcgcgttgtt catgccggat gcggcgtgac cgccttatcc   60

ggcctacgaa accgcaagaa ttcaatatat tgcaggagcg gtgtaggcct gataagcgta   120

gcgawtcagg cagtttttgcg tttgcccgca accttagggg acatttagcg accccattta   180

tttctcactt ttccgcctca tcatcgcgcg ttaatttctt tcatgaatca cgctttacaa   240

tatccagcgc gcgcanaacg gtactggcag ggatctgaat tttcctccag cagcacaatc   300

aaatcgacag ccagtttgac atcgtcaagg ggcattttcc cagtgacata atctctccat   360

tgctaagcgg gttaaaacgc gctaacctgt ttcgattttt   400

<210> 135
<211> 463
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (25)..(25)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (432)..(432)
<223> n equals a, t, g, or c

<400> 135
ctatccttat gaccacccaa ctacntcatt tacacccaaa ccagcgatct gaataaagaa   60

gcgattgccc agttacgact gggcggaaaa tgcgcgtaag gatgaagtaa agtttcagtt   120

gagcctggca tttccctgtg gcgtgggatt ttaggcccga actcggtgtt gggtgcgtct   180

tatacgcaaa aatcctggtg gcaactgtcc aatagcgaag agtcttcacc gtttcgtgaa   240

accaactacg aaccgcaatt gttcctcggt tttgccaccg attaccgttt tgcaggttgg   300

actgcgcgat gtggagatgg ggtataacca cgactctaaa cgggcgttcc gacccgacct   360

cccgcagctg gaaccgcctt tatactcgcc tgatggcaga aaacggtaac tggctggtag   420

aagtgaagcc gnggtatgtg gtgggtaata ctgacgataa ccc   463

<210> 136
<211> 584
<212> DNA
<213> Escherichia coli

```
<220>
<221> misc_feature
<222> (425)..(425)
<223> n equals a, t, g, or c


<220>
<221> misc_feature
<222> (467)..(467)
<223> n equals a, t, g, or c


<400> 136
```

```
ttggtcagcc gtacctgaat gggggctgat gcccggctgg ttaatggcag gtggtctgat      60

cgcctggttt gtcggttggc gcaaaacacg ctgatttttt catcgctcaa ggcgggccgt     120

gtaacgtata atgcggcttt gtttaatcat catctaccac agaggaacat gtatgggtgg     180

tatcagtatt tggcagttat tgattattgc cgtcatcgtt gtactgcttt ttggcaccaa     240

aaagctcggc tccatcggtt ccgatcttgg tgcgtcgatc aaaggcttta aaaaagcaat     300

gagcgatgat gaaccaaagc aggataaaac cagtcaggat gctgatttta ctgcgaaaac     360

tatcgccgat aagcaggcgg atacgaatca ggaacaggct aaaacagaag acgcgaagcc     420

tacgntaaag agcaggtgta atccgtgttt gatatcggtt ttagcgnact gctattggtg     480

ttcatcatcg gcctcgtcgt tctgggggcg caacgactgc ctgtggcggt aaaaacggta     540

gcgggctgga ttcgcgcgtt gcgttcactg gcgacaacgg tgca                      584
```

```
<210> 137
<211> 527
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (108)..(108)
<223> n equals a, t, g, or c


<220>
<221> misc_feature
<222> (191)..(191)
<223> n equals a, t, g, or c


<220>
<221> misc_feature
<222> (510)..(510)
<223> n equals a, t, g, or c


<220>
<221> misc_feature
<222> (513)..(513)
```

<223>   n equals a, t, g, or c

<220>
<221>   misc_feature
<222>   (525)..(525)
<223>   n equals a, t, g, or c

<400>   137
gcaggcagga ggaactgccc agtgatacgg ttattcgtga tggcggaggg cagagcctta   60

acggactggc gttgaacacc acgctggata acagagttga gcattggnta cacgggggag   120

ggaaagcaga cgttacaatt attaaccagg atgtttaccc agaccataaa acatggcgga   180

ttggcaaccg naaccatcgt caacaccgtt gcagaagktg gtccggagtc tgaaaatgtg   240

tccagcggtc agatggtcgg agggacggct gaatccacca ccatcaacaa aaatggccgg   300

cagttatctg gtcttcgggg atggcacggg acaccctcat ttgcgctggt ggtgaccaga   360

cggtacacgg agaggcacat aacaccgcac tggagggagg ttaaccagta tgtacacaac   420

ggtggcacgg caacagagac gctgataaac cgtgatggct ggcaggtgat taaggaagga   480

gggaactgcc ggcgcattac caccatcaan ccngaaaagg gaaanct   527

<210>   138
<211>   441
<212>   DNA
<213>   Escherichia coli

<220>
<221>   misc_feature
<222>   (440)..(440)
<223>   n equals a, t, g, or c

<400>   138
gtcagtctct gggggaagtg cgtgttccga ccggggaaat gtggtggaga aagttattga   60

aggggcttac gaggtggtgg gggtttttga ccggattgag gaaaagcgtg atgccatgca   120

gtcgctgatt ctgccgccac cggacgccag gcgctggcac aggcggcact gacttaccgt   180

tatggtgacg aacmtcarcc cgtcaccacc gccgacattc tgacaccacg acgccgggar   240

gattacggta aggacctgtg gagtgcttat cagaccattc aggagaatat gctgaaaggc   300

ggaatttccg gtcgcagtgc cagaggaaaa cgtatccata cccgtgccat tcacagcatc   360

gacaccgaca ttaagctcaa ccgcgcattg tgggtgatgg ctgaaacgct gctggagagt   420

atgcgctgat gccgtttccn t   441

<210>   139
<211>   398

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<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (164)..(164)
<223>  n equals a, t, g, or c


<220>
<221>  misc_feature
<222>  (210)..(210)
<223>  n equals a, t, g, or c


<400>  139
cgagcgagat gaacttcgag ggcggtgtga gccagtcggc ttacgagaca ctggcggcgc      60

ttaatctgcc gaaaccgcag caagggccgg aaaaccattaa tcaggttacc gagcataaga     120

tgtcagctga gtaagcctgt atgccggata aggcgctcgc gccnattccg atgaaataag     180

gcgcatcggg cctgaaggaa agccgtatgn atacacccgc agcccgcatc cggcaagtta     240

caacaaataa cctttaacca tgctttttga tgttttcag caataccccg cggcgatgcc      300

catactggca accgtcggga gggattgatc atcggcagtt ttttgaatgt ggtgatttgg     360

gcgttacccc atcatgctgc gccaacaaat ggcggagt                             398


<210>  140
<211>  580
<212>  DNA
<213>  Escherichia coli

<220>
<221>  misc_feature
<222>  (566)..(566)
<223>  n equals a, t, g, or c


<400>  140
gccgaacaga cacagcaata tgaaccctgc cagcgcagac gcttgctgat taatgctctg      60

aacaaaaggc gaagaatggc aaatcctgcg atcagcaaag tcagcgcacc gactatctgt     120

aacatagtca ctccgtgatg aatatcatgt gtattgtgaa tgccagtgaa tgtggcactg     180

aagcgtttgc acctgtccgg gtcccggtca tgatgaccgs aacagagaga caatgccgaa     240

ttatcagaag gtcacattca gtgtggcttg gccgttataa ccttcagcgc tgctgccgct     300

gacgctgtgg gcataaccgg cctgaacgcc cagggtgata ttttccggga cacgggcttc     360

cagtccggcc tgcagctcca gtgacgtgcc attccgggac ggtgagaacg tcatgttact     420

gccggctgcg gctgtaccca tgctcatgtc tccccgggag ctgaaggtgc ggataacaga     480

aggctgtacc cacccgttca ccggcagttc acgcacactg tgttttgcac tgtcacgcaa     540
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ggtgtcacgg gatgaggtgc cttcancaaa aggtcatatt   580

<210> 141
<211> 446
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (388)..(388)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (399)..(399)
<223> n equals a, t, g, or c

<220>
<221> misc_feature
<222> (415)..(415)
<223> n equals a, t, g, or c

<400> 141
tgcggacatc cagcgttccg ccatcatcca cacgggttct ggtggctgtg tgtccggtca   60

gcacatccag acggccgcca ttttccagta cgacattatc agctttaccc tccacaacag   120

agaatgctcc caggcggttt gtgccggtga cggttgcagc agtgctggta accagtgctc   180

cgcccgtgtt ctgggtgaca tcagacgctt taccgccggc attcacctgc agctttcctt   240

tctggttgat ggtggtatgc gcggcagttc ctccttcctt aatcamctgc cagccatcac   300

ggtttatcag cgtctctgtt gccgtgccaa cgttgtgtac atactggtta mctccctcca   360

gtcgggtgtt awgtgsctct ccgtgtancg tctggtcanc aacaacgcaa atganggtgt   420

cccgtgccat ccccgaagac cagtaa   446

<210> 142
<211> 327
<212> DNA
<213> Escherichia coli

<220>
<221> misc_feature
<222> (290)..(290)
<223> n equals a, t, g, or c

<400> 142
tgaatacgtt aagtcagcag accggcggag acagtctgac acagacagcg ctgcagcagt   60

atgagccggt ggtggttggc tctccgcaat ggcacgatga actggcaggt gccctgaata   120

```
atattgccgg agttcgccac tgaccggtca gaccggtatc agtgatgact ggccactgcc      180

ttccgtcaac aatggatacc tggttccgtc cacggacccg gacagtccgt atctgattac      240

ggtgaacccg aaactggatr gtctcggaca ggtggacagc catttgtttn ccggactgta      300

tgagcttctt ggagcgaaac cgggtca                                          327
```